THE JUDGMENT OF Urines.

By *Robert Record* Doctor of Physick.

Whereunto is added an ingenious Treatise concerning *Physicians*, *Apothecaries*, and *Chirurgeons*, Set forth by an Eminent Physitian in Queen *Elizabeths* dayes.

With a Translation of *Papius Ahalsossa* concerning *Apothecaries* Confecting their Medicines; Worthy perusing, and imitating.

LONDON,

Printed, and are to be sold by *Peter Parker* at the *Leg* and *Star* in *Cornhil*, against the *Royal Exchange*, 1679.

CP 16
18.c.6

To the Reader.

IF either the corruption, or abuſe of things, might deprive us of this lawfull and neceſſary uſe of them, even the ſacred Scriptures, our laws, our proviſions of life and clothing, might fall under declenſion, if not abolition: It is true from the inſpection of Urine, ſome have preſumed to pretend a larger judgement, and indication, then may juſtly be drawn or conjectured out of it; yet it is generally concluded by Phyſitians,

both ancient and moderne, that both Urine and Pulſe are ſo neceſſary, that without them all knowledge of Phyſick, beſides, is doubtfull, obſcure, and uncertaine: whereof the firſt ſheweth the eſtate of the liver and veines, the ſecond of the heart and arteries: The Urine becauſe with the blood it is conveyed into all parts of the body, and from thence returneth back again in the veines, to the liver and urinall veſſels, bringeth with it ſome indicature of the ſtate and diſpoſition of all thoſe parts from whence it commeth: and who ſhall pleaſe to peruſe that exact peice of *Daniel Becherus*, ſhall finde obſervable peices, both concerning the urine, and divers experimented medicines made with it. Concerning the judgement of the Pulſe, who ſhall pleaſe to peruſe Doctor

To the Reader.

May upon *Pennant*, ſhall finde the Pulſes motion not ſo certain an indicature, becauſe in ſome diſeaſes there is ceſſation, or none, or ſmall appearance to conjecture by. Concerning the Author, he was one of the firſt who labour'd to reduce the tractate thereof, unto order and method, and hath been ſeconded by laborious *Fletcher*, to whom our Engliſh Nation oweth much for their labours: The antiquity and paines of the Author hath cauſed it to be preſented again to the Preſſe, hoping, with judicious men, it ſhall receive the acceptance is deſired and ſtudied

By the well-wiſher
of your health,

R. R.

The PREFACE.

THough the unſatiable greedines of covetous men doe many and ſundrie waies hurt, yet ſome wayes it may do no leſſe good, if men will not diſdain (as they ought not) to uſe it in ſuch ſort as I ſhall ſhew you. The good uſe of a covetous example.

But becauſe that unſaciableneſs is never ſatisfied, but beſide thouſand of means invented already to quench the unquenchable greedines, it ſeeketh and findeth daily new and new means innumerable, ſo that it were an infinite labour to declare them all. I will wittingly, and purpoſedly paſſe them over, only taking one general ſentence, which ſhall be in ſtead of all the reſt.

Veſpaſian, one of the great ſchoolmaſters of avarice, which could pick out profit of every thing (yea, even of mens urine) taught his Scholers (I meane the whole court of covetous perſons) this leſſon enſuing:

Lucri bonus odor [illegible] qualibet.

Lucre is ſweet, and hath a good ſavour;
Though it come of Urine, dirt or Ordure.

This ſentence, if it be withdrawn from the filthy lucre of unſatiable covetouſneſſe, wherein it is deteſtable, and imployed rather to the due lucre of mans ſuſtenance, then it becomes tolerable: But if it bee referred to the neceſſarie lucre of mans health, then is it greatly commendable. If there can be then any commodity for mans health gathered out of urine, (as there may be much) men ſhould not be negligent in ſeeking of that thing which ſhould do good both to themſelves and others? ſeeing the covetous are ſo diligent in ſeeking for that thing which ſhall profit neither themſelves nor others?

And the negligence is ſo much the greater, if men be more remiſſe in ſeeking after ſo neceſſary a thing in a matter ſo commendable, then the covetous in a bad thing.

But in as much as this thing (by reaſon it is not plainly ſet forth) is with no leſſe difficulty to be ſtudied on, then it is neceſſary to be uſed, the ignorant may have ſome excuſe: I therefore in the name of many other, have taken this pains on me, to ſet forth this thing ſo plainly, that ignorance can have no excuſe.

Ignorance ſet aſide.

But that no man ſhould doubt of the truth of

of this Treatiſe, or of mine intent, in putting forth the ſame rather in this our Engliſh tongue then any other: I ſhall briefly ſhew reaſons of both; First, for the truth of it, I will boldly ſpeak, knowing for certain that no man that can judge it, will ſay or thinke otherwiſe, but that it is as true as mans knowledge can deviſe it. And it is the opinion of the moſt excellent writers of Phyſick both Greeks and Latine; namely, *Hippocrates*, *Galen*, *Ætius*, *Æginbta*, *Philotheus*, *Theophilus*, *Actuarius*: alſo *Cornelius Celſus Plinius*, *Conſtantinus*, *Africanus*, and *Clementius Clementinus*, with others more, conferring alſo with theſe *Avicenna*, *Egidius*, *Polidamus*, and ſuch like: But with what temperance and moderation they that are learned may perceive. Theſe have I followed chiefly in this judgement of Urines.

Why this Book is written.

The firſt reaſon.

And in the uſe of medicine and diſeaſes touching urine, I have joyned with them *Dioſcorides*, *Quintus Serenus*, *Columela*, *Sextus Platonicus*, and divers others. Now if there be any man that doubteth of the truth of thoſe writers in this thing, I am not here to force beleef upon them.

But now as touching mine intent in writing this Treatiſe in Engliſh; though this cauſe

The intent of the Author.

cauſe might ſeem ſufficient to ſatisfie many men, that I am an Engliſh man, and therefore may moſt eaſily and plainly write in my native tongue, rather then in any other: yet unto them that know the hardneſs of the matter, this anſwer ſhould ſeem unlikely: conſidering that it is harder to tranſlate into ſuch a tongue, wherein the Art hath not been written before, then to write in thoſe tongues in which the terms of the Art are better expreſſed.

Now to ſhew briefly the cauſes moving me thereunto. I am ſure, there are but few that ever ſought counſell for their health, but they know that the common trade to attain to the knowledge of the diſeaſe, is by the judgement of the urine, though not alone, yet as the principall.

Likewiſe, as there is not any thing ſo good, but the abuſe of it may cauſe harm to enſue therupon. So this judgment of urines, though it be a thing highly to be regarded, yet if it be uſed raſhly without foregoing ſigns it may cauſe (as it doth often) ſome error in the judgment of the Phyſitian, though he were right excellently learned: not ſo much by the ignorance of the Phyſitian, as by want of knowledge in the patient, which ſhould inſtruct the Phyſitian, in ſuch queſtions as hee needed

needed to demand of him : and not to look that the Phyſitian ſhould tell him all things at the firſt ſight, more like a God then man.

So that if there be any Phyſitian ſo arrogant, that he will take upon him to tell all things alone, and will not hear the Patient ſpeak, ſpecially not knowing the party before, neither ſeeing other ſignes but only the urine, as I dare boldly pronounce, That ſuch a man is unworthy to be called a Phyſitian. So it ſhall be good for all men, not to truſt to the judgement of ſuch a one : for by ſuch miſ-uſe in this thing not only much harme befalls the patients, ſo that it hath been the occaſion of many mens death, but alſo very much reproach hath enſued to the whole eſtate and order of Phyſitians, and hath cauſed that excellent and moſt neceſſary art to bee contemned, derided, and little ſet by.

To avoid the more this inconvenience, I have written this little Treatiſe to all men in common, that they may learn to have ſome knowledge in their own urines, and thereby may be the better able to inſtruct the Phyſitian, at the leaſt, what ſort of urine they have made from time to time from the beginning of their ſickneſs, and ſomewhat before. The uſe of this Book.

And alſo what ſort of water they were wont

wont to make in their health? ſo that if men will be diligent to mark their water in time of health, they ſhall not only be able to inſtruct the Phyſitian (as I have ſaid) but ſhould bee alſo able to perceive the cauſe of the diſeaſe ſometimes before the grief come, and ſo by the counſell of ſome diſcreet Phyſitian avoid the ſicknes before it bee fully entred: yea, and by due marking of their urine, they ſhall perceive from time to time, how they ſhall governe themſelves in meats and drinks, in exerciſe and reſt, and the like things, ſo that thereby they may eſchew both the diſeaſes, and alſo the cauſes of the ſame.

Now what a commodity this may bee to all men, and what thanks he hath deſerved that hath taught this ſo great a commodity to all men in generall, I leave it to every mans own judgement.

And thus (as you may perceive) I have declared the cauſes of this my pains, taking them to be for the profit of the whole Commons indifferently. Howbeit, if any mean learned Phyſitian ſhall be thereby furthered in his judgement, I will not envie him, but will be the gladder, the more number of men I perceive to take benefit by it.

I am ſure that the true judgement of u-

rines

rines, according to the mind of *Hippocrates*, *Galen*, and ſuch like, is very hard, though not to excellent Clerks, yet to the meaner ſort; partly by reaſon that it is written ſo diſperſedly in their works, and not in any one Book peculiarly and ſufficiently: and partly becauſe that ſundry words uſed in the ſame (as in the reſt of Phyſick) are obſcure to them that have not been exerciſed in all kinds of learning, and that with the knowledge of both the Greek and Latine tongues. Therefore I truſt, that this my pains ſhall be ſome help alſo, to them that lack the exerciſe of ſuch ſtudie and knowledge. The difficultie of Judgemen in Urine.

But becauſe there is a common ſaying in the mouths of many men now a dayes, that it is a profaining of learning, and a meanes to bring it into contempt, ſo to ſet it forth in the vulgar tongue, that every man indifferently may read it, and ſtudy it: To this I will briefly anſwer, that this ſaying is not onely againſt many great learned mens acts and examples, but alſo againſt manifeſt reaſons: beſides, that it encludeth a pernitious kinde of counſell. For if every thing ſhould be put away, or left undone, that evill men may pervert and uſe to an evill purpoſe, ſo ſhould we have no good thing remain: meats and drinks muſt be The anſwer unto it.

taken

taken away, becauſe many abuſe of it. And becauſe evill men doe abuſe of both eyes, and tongues, ſhall all men therefore pluck out their eyes and their tongues? Becauſe many men doe abuſe lawes and authority, ſhall men expell lawes and high powers? Many evill men and hereticks have miſinterpreted Gods word, yet ought Gods word nevertheleſſe to be taught vulgarly to all men. Though the Pope, Cardinals, and Monkes, have practiſed to poyſon men, even with the very Sacrament of the ſupper of the Lord, yet no man will be ſo mad, therefore to eſchue the uſe of that bleſſed Sacrament: And yet all this followeth, if men allow that common ſaying, above written. Better meanes it were to ſet forth publickly all that might doe good to the publique wealth, and ſtreightly to puniſh the abuſes of them, then to puniſh good men and good things, becauſe that evill men offend. It is a like error to that ſort of doctrine, which contemned wine as an evill thing, becauſe that many were made drunken with it. But to leave this, and to come more particularly to the matter.

What is learning unlearned, or knowledge unknown, any thing elſe but a vaine name? Learning then encreaſeth moſt, when it

it is ſtudied of moſt: And learning then triumpheth moſt, when it hath moſt favourers and followers. And then doth ignorance (learnings enemy) rejoyce moſt, when learning reigneth in feweſt, and blindneſſe ruleth moſt: ſo that then is learning moſt profained, contemned, and hated, when it hath moſt enemies: that is to ſay, when moſt men are ignorant. For that old ſaying ſhall alwayes be true: Learning hath no enemy, but the ignorant.

Aske that great Cleark *Plutarch* what his minde is in this: Whether the judgement of health be a meet thing for every man to ſtudy: and thou ſhalt heare him anſwer: that ſhame it is for men to obſerve the crying of Crowes, and ſuch like things in beaſts and birds, whereby men judge of the change of weathers, and to be negligent in marking motions within themſelves, and alterations preparing unto ſicknes. Yea he requireth ſo exact knowledge in every man appertaining unto health, that he noteth it for a great ſhame, and calleth it unſenſibleneſs in a man if he be ſo ignorant, that he ſhal need to ask of the Phyſitians, what meats are beſt for him. And to ask what meates ſhall beſt digeſt in him, is as abſurd a queſtion (ſaith he) as to ask what meats are ſweet, ſoure,

Plutarch his ſentence.

ſoure, or bitter, and ſuch like. Yea beyond all this, he requireth in every man the knowledge of his own pulſe, which is a thing harder then the judgement of urines.

Examples of Writers in the Vulgar tongue.

Now if you require Examples, the whole world is full of them. They that wrote in Greek, wrote in their own vulgar tongue; and ſo did they that wrote in Latine, write in their own common ſpeech.

Beſides that, have we not infinite examples of Learned men in *Germany*, *France*, and *Spain*, which wrote of Phyſick in their own tongue? Yea, Is not our own *England* full of Examples? How many Books of Practiſes? how many Herbals? and other like Books of Phyſick, hath there been put forth many yeers paſt? And yet unto this day doe not learned wits ſleepe. How much is all *England* bound to that Worthy and Learned Knight Sir *Thomas Eliot*, which took the pains to build a Caſtle of Health for all Engliſh men (beſides many other learned Books that he hath put forth in the Vulgar tongue) whereby a man may learn both to govern himſelf ſo, that though he eſcape not all ſickneſſes quite, yet he ſhall eſchew the great dangers of them? *England* may rejoyce of ſuch a Knight: yea, *England* hath too few that

Sir *Thomas Eliots* Caſtle of Health.

followeth ſuch example. But if *England* had as many well willing doers as ſhe hath cruell and ſpitefull diſdainers, then were *England* the Flower of all Realmes in the world.

Now will I leave this and draw nearer to my purpoſe, and will deſire all men that ſhall read this Book, patiently to bear with my boldneſs, and thankfully to receive my good minde. And if there ſhall bee found in this Book, or in any other that I ſhall put forth, a ſmall error or overſight (for greater errors, I dare ſay there ſhall be none) I ſhall deſire all them that ſhall find any, to advertiſe me thereof by word or writing, and I ſhall be ready not onely to render condign thanks, but alſo to amend duely that ſhall be thought amiſſe, or elſe to yeeld a reaſon for the proof of the ſame.

And now to make an end: I will deſire every man ſoberly and diſcreetly to uſe this my Book, not uſing it to the taunting or checking of other men: nor to truſt in their own knowledge further then they ought. An exhortation to the Reader.

And likewiſe I ſhall exhort all men, not to mock and jeſt with any Phyſitian (as ſome light wits do) tempting them with

Beaſts ſtale, in ſtead of mens urine: others bringing to them mens water for womens, and ſuch other like things. For in this doing they deceive not the Phyſitian, but themſelves. For a mans water to be like a womans, it need ſeem no ſtrange thing. Howbeit, again there is a notable difference, inſomuch that that water which in a man declareth health, if it were a womans, might declare ſome diſeaſe; and likewiſe that which in a woman ſignifieth health, if it were a mans water, it might betoken ſickneſſe. And if a mans water and womans be like, and betoken both diſeaſes, thoſe diſeaſes may be divers and not one.

Yea two mens waters being both alike, ſhall not declare alwaies one grief, except they agree alſo in age, diet, exerciſe, and other like things

Alſo, that a Beaſts Water may be like a Mans (the Mans ſickneſſe being thereafter) *Hypocrates* witneſſeth, and experience teacheth, as I ſhall declare hereafter.

Therefore if you ſeek the Patients health, look that you receive the urine diligently: and as ſoon as you can, preſent it to the Phyſitian, and be diligent to inſtruct him in all things that you can, and that he

he ſhall not have need to aske. And ſo no doubt, you ſhall receive great commodity of that Art, to the health of man, and the glory of God, which hath given ſuch knowledge unto man.

(***)

THE URINALL OF PHYSICK.

CHAP. I.

Of the Diviſion and Order of this Book.

BEcauſe that nothing done confuſedly can be well underſtood of the Readers, for every thing the better order it hath, the better it may be underſtood, and is much more eaſily remembred, when the order of it is well and certainly known: I have therefore digeſted this Book orderly, as I ſhall here ſet forth, to the intent that you may read, as it were in groſſe the whole Book, and thereby keep it the better in remembrance. The ſum of this Book.

1 First, therefore I will declare the nature of urine, what it is, and how it is ingendred within man, and how it passeth forth from man.

2 Secondly, of the order of receiving it in a convenient vessell. And of the time and place meet to consider it.

3 Thirdly, how many things are to bee considered in urine: and how many wayes they may be altered in a healthfull man.

4 Fourthly, what significations and tokens may be gathered of urine, concerning any alteration in man, past, present, or to come,

5 Fiftly, to what use in medicine urine may serve: and of other good uses of it to mans commodity.

6 And last of all, I wil declare certain diseases touching urine, which either let it, or cause it to void unwillingly: with the Medicines and remedies meet for the same.

CHAP. II.

How Urine is ingendred in Man and how it passeth forth.

AS unto them that are learned and know by the Art of Anatomy the scituation of the parts of man, and the naturall office of

of every part, it is eaſie enough to perceive the originall generation and cauſe of urine, without any example: ſo unto them that neither know the ſcituation, nor offices, no, neither yet the names of the parts of mans body, it is ſcarce poſſible to make them to perceive the generation of urine, without ſome ſenſible example. But becauſe it is very hard to find an artificiall example, which can alone duely expreſſe this work of nature, I will uſe therefore an example of a natural work, which ſhall expreſſe in many points this thing, though not in all; for ſuch can there none be, but the thing it ſelf.

And in as much as this example is not eaſie to be underſtood of all men, though the moſt part do now a daies partly know it by experience of finding ſprings of waters, I will firſt propoſe an artificiall example, to make both the other to be the better perceived.

It is daily ſeen in diſtilling of Waters, that the temperate heat of the fire doth ſeparate the pureſt part of the juice from the herbs, and alſo from the groſſer juice. This by naturall lightneſs is drawn into the head of the Stillatorie, where by the coldneſs of the helmet, it is made ſomewhat groſſer, and ſo through naturall heat deſcendeth and

An example of Stilling.

passeth forth by the Pipe of the Stillatorie.

The Originall.

And as the Art of man useth to make this water, so doth nature use to make the water of springs, whereof come all rivers, streams and floods, except the sea. For seeing the earth is not perfectly sound and thick of substance, as stones and some woods appeareth to be, but it is hollow and full of holes, as you see that cork is: so that the air which by his subtleness pierceth into never so little a hole, entreth and filleth this hollowness, nature so leading to it, because no place should be emptie: In which place by the coldness of the earth, the air is turned into water, as you may see in walls and pillars of stone, namely, of marble, how the coldness of the stone turneth the air into water, and hangeth full of drops, which sometimes trickle down apace, as if they did sweat. So when the earth hath turned the air thus into water, then doth it drop down and gathereth together, and so runneth out as it can finde or prepare way. As long therefore as there is hollownes in that place, with such sort of coldnesse, and none other let, the Spring of water shall never cease. But if the way by any meane be stopped, then the water turmoileth and

Cause of springs.

labou

laboureth, either to expell that let, or to make a new way.

Now this water being thus ingendred of the air which hath no taſte, is alſo naturally without all taſte: but the taſt that it hath is the taſte of the vaines of earth or mettall, by which it doth run. And that is the cauſe that ſome waters are ſweet, and ſome ſoure; ſome freſh, and ſome ſalt, and otherwiſe diverſly taſted; ſome alſo are hot, and ſome cold, and with other like qualities endued, according to the ground whereby it paſſeth. But of this I will not now ſpeak, becauſe I have appointed for it a peculiar Treatiſe, if God grant me time: Only this I ſay now, that a man that is expert, can by the colour, taſt, and other qualities of the water which he ſeeth, tell what vains of earth or mettals is in that place whence that water cometh, though he ſee it not. The cauſes of diverſity in taſt of Water.

And this water is expelled out of his firſt place, as unprofitable there to remain; and yet when it is come forth thence, it is good for divers and ſundry uſes.

Thus may we thinke of the generation and uſe of urine or mans water. The generation of urine.

It ſhall not need that I here reckon exactly the places, cauſes, and the order of the three concoctions which go before the generation Three Concoctions.

neration of urine, but it ſhall ſuffice to te
briefly, that of the meat and drink togethe
concocted in the ſtomack is made rud
blood : (if I may ſo call it) which rude bloo
is wrought again, and made more perfect
in the liver: and thirdly yet more puri
ed in the hollow vein, where the urine
ſeparate from it, as whey from milk, but ye
may not exactly be called urine, till it com
into the reins or kidnies, which draw it ou
of the hollow vein, by a certain natura
power reſting in them. And then doth th
reins or kidnies alter it perfectly into urine
as the coldnes of the ground turneth air int
water. But you muſt take this compariſon o
ſimilitude to be ſpoken of the alteration i
ſelf, and not of the cauſe.

Now when Urine is thus made like to that
faſhion of water (as I ſaid) then as the water
paſſeth forth from his firſt place, by iſſues
outward, ſo doth the urine deſcend from
the reins by certain veins (as it were) called
Water pipes, and runneth into the bladder,
from whence at due times it is expelled
forth, if the way be not let. So that you
may compare the reins to the head of a con-
duit, the water pipes, to the conduit pipes,
the bladder to the conduit, and the ſhaft
to the rock of the conduit.

And

And further as the water doth declare by
aſte and colour the qualities of the earth, or
veins of mettall, whereby it runneth, and
rom whence it commeth, ſo the urine by
olour, and other wayes, declareth of what
ort the places that it cometh thorow, and
umors that it commeth from are affected.

And yet not only ſerveth for this, but alſo
s the water, though it depart from the
arth as ſuperfluous in that place, yet in o-
her places and to other purpoſes it is great-
y profitable. So the urine, though it be ex-
pelled as a ſuperfluous excrement, yet beſide
the commodity of judgement, which it gi-
veth of the parts that it cometh from, it doth
alſo ſerve for divers uſes in medicine, and o-
ther good commodities: Of both which, I
will anon orderly write, after I have decla-
red certain things appertaining to the due
judgement of it.

Of

Of the Inſtrument and parts by which Urine is engendred and paſſeth, mark this Figure following.

A. Is the liver.
B. The hollow vein
C. Veins by which the reins do draw the urine, and therefore be called ſucking veins.
D. The reins.
E. The water Pipes.
F. Is the Bladder.
G. The ſpout of the yard.

All the other parts beſide, appertain to Generation and ſeed.

CHAP.

CHAP. III.

What Urine is, and what tokens it giveth in generall.

YOu have heard now how urine is ingendred, from whence it cometh, and by what places it paſſeth, which things all, to the intent that you may the better keep in minde, you ſhall note this ſhort definition.

Urine is the ſuperfluity or wheyie ſubſtance of the bloud into a hollow vein, conveyed by the reins and water pipes, into the bladder. ſo that hereby you may plainly perceive, that if the bloud be pure and clean, and none other grief in the reins, Water-pipes, Bladder, nor Shaft, then ſhall the urine ſo declare it, being alſo perfect and pure in ſubſtance and colour, and all other tokens according to the ſame. But if there bee any grief in any of thoſe parts, or the blood corrupt by any means, then ſhall the urine declare certain tokens of the ſame, as I ſhall anon particularly expreſſe. The definition of urine.

But firſt it ſhall be neceſſary to inſtruct you of the veſſel place, and time, meet to judge urine, and of the manner of receiving it.

CHAP,

CHAP. IIII.

Of the form of the Urinall, and of the p and time meet to judge urine, and ho it should be received.

THat urine should be kept to see, wh is first made after midnight common or namely when the patient hath slept lo but you must take heed whether the pati be man or woman, that they make not t urine in another vessel first (as many use do) and then pour it into the urinall w it is setled, for that causeth much de and error in the judgement of it. And that the Patient cannot well make it in urinall, either by weakness, or any ot cause, then let them make it in another v sel; but see that it be clean and dry; and soon as the water is made, pour it forth p sently into the Urinall altogether, and le no part of it out, as some curious folk use to put the clear part only into the urin and cast away the dregs, as though it sh not with their modesty to bring such fo gear to the Physitian, others of such like fo lish mind. Pour it therefore in wholly, a let not the urinall stand open, namely in dusty place, but stop it close with a glove

The order to receive urine.

oth

ther leather, and not with cloth, paper, nor ay, and let it be brought to the Physitian within six hours at the furtheſt, for after that ime it cannot well be judged.

Now as touching the Urinall, it ſhould be of pure cleer glaſſe, not thick, nor green in colour, without blots or ſpots in it, not at in the bottome, nor too wide in the neck, but wideſt in the midle, and narrow ſtill toward both the ends, like the faſhion commonly of an egg, or of a very bladder being meaſurably blown (for the Vrinall ſhould repreſent the bladder of a man) and ſo ſhall very thing be ſeen in his due place and colour. If neither the groſſenes of the Vrinall neither the colour, nor ſpots ſhall let the true ſight of the colour and ſubſtance of the urine, and the contents of it: neither the deform faſhion of the urinall ſhall alter the egions or rooms of the urine. The Urinal.

Likewiſe concerning the place meet to behold urines, you muſt look that it be neither too dark, ſo that your ſight ſhould not diſcern perfectly, either the colour, ſubſtance or contents, for lack of light: neither yet that your ſight be likewiſe deceived, if he place be too light, as in open light or beams of the ſun. The place

Beſides this alſo you muſt mark the time due The time.

due to behold urines, but becauſe there c
no one time be aſſigned certain and exact
judge all parts of it, I will briefly ſhew t
order of the things to be conſidered in th
time.

Firſt, when the urine is made, while it
yet ſomewhat hot, you ſhall conſider the c
lour of it: for that may beſt bee diſcern
then; and likewiſe the thickneſs of the ſu
ſtance of it, which if it be mean, ſhall th
be beſt ſeen. All other things, as the bubbl
and the contents ſhall be beſt judged ſom
what after, when the urine is ſomewhat co
led, and they be duly ſetled in their prop
places.

CHAP. V.

How many things are to be conſidered in Urine.

Four things to be conſidered in Urine, *viz.* Subſtance, Colour, Quantitie, Contents.

NOw leaving this as a brief inſtructio
of the generation of the Water or U
rine, and of the manner of receiving it i
veſſels due, with time and place meet to co
ſider it. I will particually declare how man
things are to be conſidered in it, which ar
commonly named four, that is the Subſtance
the Colour, the Quantity, and the Contents

an

and the Savour thereto may be added as the fift; to the which fift, if you ſhall joyn ſtableneſs and order, as two accidents common to the firſt four things, (but yet no leſſe to be conſidered then they) then ſhall you judge the more certainly.

Stableneſs is called, when the urine continueth certain daies together of one ſort. And if it alter every day, then is that called unſtableneſs or changeableneſs, to which thing order doth appertain: For order is the following of one thing after another, as black colouted urine after white, green or pale. I mean not, becauſe that ſo it ought to follow, but only that you muſt obſerve how it doth follow. For black Urine doth not ſignifie the ſame if it follow after green urine, as it doth if it follow after white urine: ſo that the order ought alſo to be marked.

Stableneſs.

Unſtableneſs.

Order.

But now to return to the four firſt things.

Subſtance is called in urine, the urine it ſelf, in reſpect of the thickneſs or thinneſs of it: So that there are 3. ſorts of ſubſtance in urine: thick, thin, and mean.

Subſtance.

Three ſorts of ſubſtance in urine.

Thin ſubſtance is called, when you may perceive well the joynts of your fingers through the urine. And contrariwiſe it is called thick, when you cannot well ſee your

Thin.

Thick.

fingers through it: and that is in the middle between extream thick and extream thin, is called, mean.

Mean [redacted].

Colours.

Colours are divers, but the principall are theſe ſix, white, pale, flaxen, yellow, red, and black. And all the other colours are contained under theſe ſix.

Light white as Chryſtallie, ſnowie, [redacted].

As under white, are contained clear as chryſtal, white as ſnow, and pure as water which three are light whites.

Dark white as milke-white, horny [redacted], pale, flaxen, yellow.

Then are there other three more darker as milk white, cleer like horn, and grey.

After white, followeth pale colour, and then flaxen, [redacted], and then yellow, which may be called golden, for it is the colour of pure gold.

Light ſaffron, ſaffron colour.

After it followeth light ſaffron, and then ſaffron, then claret colour, and then red, after it crimſon, and then purple, and then blue.

Claret.
Red.
Crimſon.
Purple.
Blew.

Green.

Then is there green of divers kinds, as light green, green as graſſe, ſtark green, and dark green.

Oylie.

There are alſo oil colours (that is, popingay green) of three ſorts: as of green, light oily, ſtark oily, and dark oily.

Aſh colour.

After theſe is there Aſh colour like unto lead; and after it, as laſt of all cometh black. And theſe be the chief colours.

Black.

No

Now as touching quantity, it is also in three sorts; much, little, and mean.

Quantity

Then it is called much quantity, when it exceedeth the measure of a mans drinking. Much.

And then is it called little, when a man pisseth lesse then he drinketh. Little.

And that is mean, when a mans pissing and his drinking is of like quantity. All this must be considered by due proportion. Mean.

The contents are all things in the water, that be of another matter and substance particularly, then is the urine: as the sediment or ground, the sublation or swim, and the cloud. To these are added other dis-form contents, like hairs, like huskes, like bran, and such other. And also the crown of the urine, with the bubles, and other things swimming on the top of it. Contents. Sediment. Sublation. Cloud. Crown.

For the better understanding of these contents, you must note that the whole urine from the top to the bottome, is divided commonly into three rooms or regions. 3. rooms or Regions.

The lowermost is the region of the ground or sediment: so that the grounds or sediments are the contents that occupie the lowermost region. Or yet more properly, the sediment is called a certain substance of grosser matter then is the urine, like to a quantity of very watery flegm, which fleeteth Ground or Sediment.

a little above the bottome of the urine : But if it be ſo light, that it ſwim in the middle region of the urine, then is it called the ſublimation or ſwim.

Sublimation or Swim.

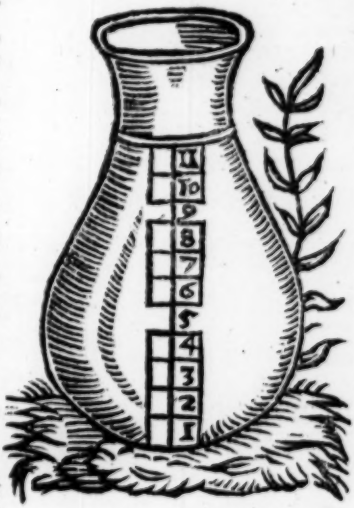
And if it bee yet more lighter, ſo that it doth fleet in the higheſt part of the urine, then it is called a cloud : whereby you may perceive that the ground, the ſwim, and the cloud are but one thing in ſubſtance, and differ onely by lightneſs and height, and taketh his name according to the region that it occupieth. But yet again note, that every one of the 3. regions, is farther devided into other parts alſo ; whereby you may know exactly, how far all contents differ from the juſt room of their region ; ſo that the whole urine muſt be divided into eleven juſt parts of which the nether region occupieth four the fift is the void room between that and the middle region, which containeth 3. more that is to ſay, the ſixt, ſeventh, and eight And then the ninth is a void room between the middle region and the higheſt, which higheſt region, containeth the other two parts that remain, that is the tenth and the eleventh, as this Figure ſheweth which hereafter followeth.

Cloud.

Another diviſion of the three Regions.

Abov

ABove these 3. regions, about the very brink of the urine, you may see a certain ring as it were, going about, and that is cal'd the crown.



Crown.

Highest of all things in the urine are the bubbles which either go about with the ring only, or else fleet in the middle of the urine onely, or else both. Yea sometime they cover all the whole top of the urine.

Bubbles.

Beside these, there is oftentimes as it were flotes or fattines on the top, and sometime certain spots only, which are like to drops of oil. And these commonly are the whole contents. For as for gravell or stone, or any like thing is contained under the name of diſ-form contents.

Fattines.

You shall also understand, that in the contents must the substance, the quantity, and colour, bee observed.

Substance. The Substance is either equall or unequall.

Equall. Equal Substance is called, when the ground swim, or cloud, (for to them appertaineth this consideration) is not tattered and dispersed, but justly knit together.

Unequall. Unequall is contrary, when it is thinner in one part then in another, or flittered out, and not joyntly and uniformly joyned together.

Quantitie. The quantity must be considered in respect to a mean, which, if you know well, then may you soon judge that to bee overmuch, that is more then it: and that to be too little, that is lesse then it: But this mean quantity must you learn of a perfect whole water, and best by the teaching of some good Physitian.

Of colours I have spoken before sufficiently for their varietie.

CHAP. VI.

What a perfect Urine is, and also how many wayes all parts of the Urine may be altered in a healthful man.

NOw that you know the difference of such things that ought to be conside-

ro

red in urine, before you ſhal learn by conſideration of them, to judge of the perſon that made it, how he is diſpoſed in his body: you muſt firſt know how many waies the parts of the urine may bee changed in a healthfull man. For the better underſtanding of which thing, and of all that ſhall be ſaid hereafter, I will firſt define what a perfect whole urine is, which as it betokeneth no grief in it ſelf, ſo it is a true rule to examine all other urines by that, which are not whole, but declare in them ſome grief.

A perfect whole urine is mean in ſubſtance and in quantity, and in colour pale, or party ſaffron, with a white ground, duely knit and ſtable, without bubbles and other evill contents.

A perfect whole urine *Galen c. 12. Criſib.*

So that this perfect whole urine declareth the difference of all other urines; For every urine the more it agreeth with this, the better it is: and the more it differeth from this, the worſe it is, as I ſhall anon particularly declare.

And here you muſt mark, that this perfect whole urine is not only taken of a perfect whole man, but alſo of the luſtieſt time of mans age, that is at thirty yeers: or more largely, between twenty five and thirty five. For in every age doth the urine alter, as you ſhal hear by and by.

The difference of Urine by age in men.

Children. THe Urine of children differeth but litt
in colour from pale, or light saffron
Galen 2. prefag. Hippoc. 13. and in substance it somewhat exceedeth i
thickneſſe the substance of yong mens urine
and hath much ground in it. And the mor
they do grow in age, the higher waxeth th
Young men. colour, the substance the thinner, and the le
is the ground. And therefore when age i
Men. meſt freſheſt, the colour is pale (so that th
urine of flouriſhing youth or perfect man
hood, is pale or light saffron) and ther
reſteth, and goeth no higher, and the groun
of it is mean. But now after that time th
more age increaſeth and youth decayeth, th
Age. more the colour changeth from pale tow
ard white, and the ground waxeth leſſer an
darker: so that the urine of old men is thi
and white, with little ground, inclining un
to cruditie.

Of the Urine of Women by age.

Women. THe Urine of women which are tempe
rate in health and in their flouriſhin
youth, doth decline somewhat from pa
and light saffron toward white, and the sub
ſtanc

ſtance is in manner thin, but it hath more ground then mens urine; now all they that be under this flouriſhing age, the younger they be, the whiter coloured is their urine, and the more ground it hath; and if they be elder, the more aged they are, the whiter alſo is their urine, but the ground is ever leſs and leſſe. And this you may ſee how both diverſity of age, and diverſitie alſo of kind or ſexe, cauſeth alteration in urine, without change of health; for you muſt underſtand all theſe ages with perfect health.

Young women.

Aged women.

The diverſity of Urines, according to the times of the yeer.

EVen as the diverſity of ages alters urine, ſo doth the times of the yeer. For the more that the ſpring time draws toward heat the more the urine gathereth high colour, departing from pale and flaxen, toward pale and light ſaffron: and the inequality of ſubſtance changeth into a due equality according to nature, and the ground doth waxe thinner, and the quantity is more in reſpect to that is drunk: ſo that about the midſt of the ſpring they return to a mean.

Spring.

In the beginning of Summer, the colour appeareth pale and light ſaffron, and the ſubſtance

Summer.

ſtance mean, the ground white, duly kn
and ſtable, but yet thinner then a mea
ground. And the more that the Summ
proceedeth and draweth to the higheſt, th
leſſer is the quantity of urine, in compariſo
to the drink and the ground, changeth fro
his naturall whiteneſs to a paliſh colour an
is much leſſer and thinner. And this thi
neſſe glyſtereth withall, and inclineth t
ward golden and ſaffron colour.

Harveſt. When Harveſt commeth, then the c
lours do return to a mean again: but t
thinneſs and brightneſs remaineth ſtill; t
ground alſo is ſtill obſcure and little, but y
it is white, duely knit and ſtable. And
Harveſt goeth forward, ſo the urine retu
neth to a mean in all things.

In the middle of winter and thereabou
the urine keepeth due quantitie, but the c
lour inclineth toward white, and the groun
is over great, but in all other points it
mean.

Winter. And as Winter goeth on, the ſubſtance
urine appeareth divers, and the colour whit
the quantity greater in reſpect to the drin
and the contents greater and unconcoct
but toward the ſpring time they return t
wards a mean, as I have before ſaid.

Yet beſide theſe, alſo diverſity of cou
tri

tries cauſeth diverſity of urine, even by the ame reaſons as doth the times of the yeer. For countries that be temperate exactly, make urine like unto the ſpring time. And hoſe countries that be hot and dry make rine like unto ſummer. And contrariwiſe, old and moiſt alter water, as doth winter. But countries that are drie and diſtempered between heat and cold, make urine like harveſt. Countries alter urine.

Alſo meats and drinks, and order of diet, cauſeth urine to alter, and medicines alſo, is not only experience reacheth, but alſo *Hippocrates* witneſſeth in the ſixt Book of his *Epidemies*, (or raining ſickneſſes) in the ſift part and the fifteenth ſentence, as for example: Thoſe meats that are light of concoction and good in ſubſtance, cauſe good and temperate urine with pure contents: but contrary meats cauſe diſcoloured urine, and thin, with ſtrange contents. Meats drinks and medicines. Meats of light concoction.

Meats that will not concoct, make leſſer contents, and divers in ſubſtance. Evill meats cauſe greater contents, and in nothing duely formed. And as the quality of meats doth alter urine, ſo doth the quantity alſo. For if a man have eaten much, and not concocted it, his urine ſhall be thin and white, and ſometime without ground. But if this crudity Meats of hard concoction.

crudity (or rawneſs in ſtomack) contin
long, the urine will become divers in ſu
Drinking of wine. ſtance, and in contents.

Alſo wine drunk abundantly cauſeth
teration in urine.

Faſting long. But now contrariwiſe, if a man doe f
long, his urine will appear fiery and ſaffr
coloured, and thin with leſſer ground

Suffering of famine. But if a man ſuffer famine, and do n
nouriſh, his water ſhall be thin and whi
with a certain gliſtering, and witho
ground.

Labour. Moreover, exerciſe and reſt changeth
rine: for through exceſſive labour, the uri
changeth from light ſaffron, and at leng
becommeth ſaffron coloured, with lit
ground, thin, and higher coloured then
ſhould be. And ſome time there fleete
on the top a certain fattneſs, ſpecially af
overmuch wearineſſe.

Reſt. But idleneſs and reſt doth contrariw
cauſe white urine, with greater and groſ
ground.

Sleep. Watching. Furthermore ſleep, and watching, if th
exceed meaſure, they alter urine; but tho
is a difference between both ſleepe a
watching comming of ſickneſs, and tho
both when they be taken willingly in heal
For if that ſickneſs cauſe overmuch ſlee
th

hen is the urine whitiſh, with ſubſtance ei-
her fully thick, or but partly thin, and the
contents many and undigeſt.

But if that ſuch ſleep come naturally the urine is not ſo white, but rather flaxen, and the ſubſtance mean, with greater and well concoct contents. Naturall ſleep.

And likewiſe they that have watched purpoſedly, and not by reaſon of ſickneſs, their urine is but little changed. But if they watch for any ſickly cauſe, their urine will change but little at the beginning: but with continuance the contents will be diſperſed, and at the laſt clean waſted, and the ſubſtance of the urine waxeth thinner and thinner, by little and little, and the colour inclineth either to white and watery, or unto golden ſaffron, oylie, or black, according as the cauſe is that maketh it ſo to change. Voluntary ſleep. Watch in ſickneſs.

Of alteration by complexion, I will write in the next Chapter.

Now have you heard as touching alteration of urine in health, according to diverſity of ages, both in men and women, times of the yeer, countries, meats and drinks, labour, reſt, ſleep, and watch: ſo that you muſt have regard to theſe in all judgements both in health and in ſickneſſe. For if theſe be not diligently marked, they may cauſe

cause great error, as you may well consider.

What is to be considered in urine

First therefore, in every urine you consider, whether it be a mans or a woman (and what age he or shee is of, then what time of the yeer it is, and what country he is in, what meats and drinks the person useth, and likewise of labour and rest, sleep and watch: And then must you consider how every one of these doth alter urine: so also if the altering of them from that healthy urine (whereof I spake in the beginning of this Chapter) be but such as one of the foresaid things would cause, then may it be judged to come of any disease, as for example. High coloured water in summer (so that it pass not saffron colour) or white coloured water in winter, should rather be reckoned to come of the time of the yeer, then of any sickness: and likewise of other things.

CHAP. VII.

What be the generall qualities that alter the parts of Urine.

BEfore I treat of the signification of the parts of Urine, I think it good to inst

you of the generall qualities which cauſe all alterations in urine: whereby you ſhall perceive not only what every urine doth betoken (as I ſhall anon ſet forth) but alſo if you mark well this Chapter, you ſhall ſee the cauſe why every urine doth ſo ſignifie.

You ſhall underſtand therefore, that there be four chief and only qualities, whereof all things that are both in the Sea and Earth are made: as man and beaſt, fiſh and fowl, trees, herbs, ſtones, and mettals. Theſe four qualities are heat, cold, moiſtneſs and drineſs: and theſe four continuing duly tempered (as nature ordered them firſt in every perfect body) be the cauſe of continuall health. But if they bee altered wrongly, then doe they cauſe diſeaſes diverſly, according to the diverſitie of the alterations: And as they doe cauſe diſeaſes, ſo they change the colour, ſubſtance, and other parts of the urine, whereby wee may conjecture the cauſe of the diſeaſe; and ſo conſequently the diſeaſe it ſelf, though ſometime it declareth the diſeaſe it ſelf, and not the cauſe thereof.

But now to come to the matter meeteſt for this time, you ſhall mark that two of theſe four qualities are named Paſſive, and they cauſe but ſmall alteration in compariſon. Paſſive and active qualities.

ſon. The other two are called Active, a they cauſe great alteration.

The Active qualities are heat and col and the Paſſive qualities are drineſs a moiſtneſs.

Moiſtneſs. When Moiſtneſs therefore exceedeth lone, it dulleth the naturall colour of urin thicketh and ingroſſeth the ſubſtance, a increaſeth the quantitie. And as the ove part of it above waxeth rough and trouble ſo the ground increaſeth and continue raw and unconcoct.

Dryneſs. But dryneſs doth diminiſh the quanti of urine, and alſo the contents: It make it thin in ſubſtance, cleer and bright, a cauſeth mean colour, and the ground appe reth groſſer.

Heat. Likewiſe heat, if it exceed meaſure b little, it maketh pale and light ſaffron co lour in the urine. But if heat exceed grea ly, it cauſeth golden and ſaffron colou with mean ſubſtance, and a little brightnes the ground is mean, in reſpect to the quan tity of urine, but it declineth from the du whiteneſs toward ſaffron colour.

Cold. But cold on the other ſide maketh urin turn to white colour, and changeth the ſub ſtance from a mean. And if the cold in creaſe, the urine will alter from mean ſub

ſtanc

ſtance, and therefore conſequently will bee either thin or groſſe. If it be thin or unpure, the ground ſhall be either obſcure and little, or much, and that divers and unconcoct.

And this is the working of theſe four qualities when they exceed alone.

But and if two of them exceed together, there may reſult of that ſort four other diſtemperances; as hot and dry, hot and moiſt, cold and dry, and cold and moiſt. Now what alterations theſe and every one of them doth cauſe the urine, you may eaſily conjecture, if you keep in mind that which I ſaid of the four ſimple qualities, and ſo adde togethet the alterations. Compound diſtemperatures of qualities.

And this muſt you remember therewith, that where they both agree in any alteration, they cauſe that alteration to bee the greater: and where they be contrary, they cauſe the alteration to be nearer to a mean: howbeit ſomewhat to help you, take this brief declaration.

As a temperate man doth make that perfect urine, written of before, (*in Chap.* 6.) ſo the urine of a ſanguine man (which is hot and moiſt) ſhall be yellow, or light ſaffron coloured, by the reaſon of the heat, and ſomewhat groſs, by reaſon of the moiſture. A temperate man.

ſon. The other two are called Active, a they cauſe great alteration.

The Active qualities are heat and col and the Paſſive qualities are drineſs a moiſtneſs.

Moiſtneſs. When Moiſtneſs therefore exceedeth lone, it dulleth the naturall colour of urin thicketh and ingroſſeth the ſubſtance, a increaſeth the quantitie. And as the ove part of it above waxeth rough and trouble ſo the ground increaſeth and continue raw and unconcoct.

Dryneſs. But dryneſs doth diminiſh the quanti of urine, and alſo the contents: It make it thin in ſubſtance, cleer and bright, a cauſeth mean colour, and the ground appe reth groſſer.

Heat. Likewiſe heat, if it exceed meaſure b little, it maketh pale and light ſaffron co lour in the urine. But if heat exceed grea ly, it cauſeth golden and ſaffron colou with mean ſubſtance, and a little brightne the ground is mean, in reſpect to the quan tity of urine, but it decineth from the du whiteneſs toward ſaffron colour.

Cold. But cold on the other ſide maketh urin turn to white colour, and changeth the ſub ſtance from a mean. And if the cold in creaſe, the urine will alter from mean ſub

ſtanc

ſtance, and therefore conſequently will bee either thin or groſſe. If it be thin or unpure, the ground ſhall be either obſcure and little, or much, and that divers and unconcoct.

And this is the working of theſe four qualities when they exceed alone.

But and if two of them exceed together, there may reſult of that ſort four other diſtemperances; as hot and dry, hot and moiſt, cold and dry, and cold and moiſt. Now what alterations theſe and every one of them doth cauſe the urine, you may eaſily conjecture, if you keep in mind that which I ſaid of the four ſimple qualities, and ſo adde togethet the alterations. Compound diſtemperatures of qualities.

And this muſt you remember therewith, that where they both agree in any alteration, they cauſe that alteration to bee the greater: and where they be contrary, they cauſe the alteration to be nearer to a mean: howbeit ſomewhat to help you, take this brief declaration.

As a temperate man doth make that perfect urine, written of before, (*in Chap.* 6.) ſo the urine of a ſanguine man (which is hot and moiſt) ſhall be yellow, or light ſaffron coloured, by the reaſon of the heat, and ſomewhat groſs, by reaſon of the moiſture. A temperate man.

A cholerick man. In a cholerick man (being hot and dry the urine ſhall be in colour as in a ſanguin man, but in ſubſtance thin, by reaſon of th dryneſs.

A melancolike man. The urine of a melancholy man (whoſe na ture is cold and dry) ſhall be white throug the cold, and cleer for the dryneſs.

A flegmatick man. The flegmatick man (which is cold an moiſt) maketh urine white through cold, an thick by the moiſture, for as heat and col altereth the colours, ſo dryneſs and moiſtu changeth the ſubſtance. Now if you hav remembred all that I have written befor then ſhall you be the meeter and better ble a great deal to perceive the reaſons the tokens which vrine doth give. And ſhall your knowledge be the more certai it you know not only the thing, but alſo th cauſe of it. Now therefore will I wri of the ſignification of the parts of urin particularly, that you may perceive th firſt, and chief commoditie of urine which worketh for mans health.

CHA

CHAP. VIII.

The significations of the parts of Urine particularly.

I Told you in the sixt Chapter of this Book what urine was most perfect, sound, and healthfull of all other. And I said, that it was the rule and tryall to examine all other urines by, so that the neerer that any urine was to it, the better it was; and the further that it declineth from it, the worse it is. This I said, should be as a generall rule, which thing to be true in healthful men, you may perceive by that I have written already. And that it is also true in sick men. *Hypocrates*, witnesseth, saying, *That Urine is best, whose ground is white, duly knit and stable, all the time that the sickness prevaileth.* But *Galen* to supply that that is understood in this saying, and so to make it perfect, addeth thereto, *That it must be of colour partie golden or pale, and of a mean substance between thick and thin.* And also in these things is required stableness, to make it a perfect Urine; for that which is unstable in any part, in that it is not perfect.

Here were a place to speake of the difference of this changeableness or unstableness;

for there is one sort called ordinary, and another called unordinarie, and of both these are there divers differences. But because they depend of an exacter judgement then unlearned men can well attain unto, I overpass them for this time, and will declare the other differences of urine, whereby it altereth from this mean urine, in all parts particularly.

Substance of urine.

And first I will begin with the substance of urine, the which (as I said before) is of three kindes, thick, thin, and mean.

Mean.

A mean urine is that, that is in the middle between extream thick, and extream thin. And as it is mean between them in substance, so is it mean in signification, for it doth betoken (of it self) only good temperance and health. But the other two betoken distemperance and default of concoction, and that diversly, according to the diversity of the causes of them, as you shall now consequently hear.

Thin urine.

First to speak of thin urine, either it doth still continue thin, as it was first made, or else it doth shortly waxe thick and troubled. That that doth continue still thin doth betoken lack of concoction, and so doth the other also; but yet this that continueth thin betokeneth more lack of concoction, for it betokeneth that nature hath not yet begun to concoct. And therefore is that water, a sign of extream crudity or rawness in nature. But that that waxeth thick,

ter it beginneth to cool, though it betoken lack of concoction, yet doth it declare that nature hath begun to concoct alreadie, notwithstanding it is an evill urine, for it signifieth that nature hath need not only of great strength to perform that concoction which she hath begun, but also that there is required long time to the performance of the same. For the which cause, *Galen* calleth this, *Of all Urines the worst.*

Thus have you heard touching crudity and concoction, what thin urine doth signifie, so that all thin urine betokeneth crudity. And beside that doth further betoken (as witnesseth *Hypocrates*) *gatherings or apostumations in the nether parts of the bodie*, namely, *if it continue so very long, and the patient escape death.*

Thin and white.

Furthermore, if such thin urine have with it a light whiteness, it is a very evill sign. For if it be in a burning ague, it is a token of frensines. But if the patient be franſick alreadie, and the urine doth so continue, it doth most commonly betoken death. And if he escape death (the which is seldome seen) then shall he be long sick, and escape hardly.

Thin urine also betokeneth divers other things: as the stopping of the reins, and of the water veins. And likewise, if a man have had much bleeding, or laxe, or pissing, his urine will be white and thin, and almost without ground: Like manner in old

age, and long weakneſs of ſickneſs. Alſo in young children if it continue long, it is a deadly ſign.

Yet thin urine doth ſometime betoken the end of ſickneſs and recovery of health: as in Agues (namely quotidians) if at the beginning of them and ſo after, the urine did appear thick and troubled, and eſpecially if the colour amend therewith.

Thin and flaxen. And if it be thin in ſubſtance, and of flaxen colour, then is it better then thin and white: for becauſe the colour is better though the ſubſtance bee all one; ſo that though it betoken ſome weakneſs and lack of concoction, yet not ſo much as doth the other, for the colour is meanly concoct: that is to ſay, naturall heat is meanly increaſed.

Thin and golden. But if it be thin and golden, it is yet more better then thin and flaxen: for the colour is more exact and this betokeneth concoction half compleat, for that which it lacketh in ſubſtance, it hath in colour.

Thin and ſaffron. After this is there thin and ſaffron coloured, which betokeneth firſt lack of concoction, and beſide that default of nouriſhment as in a young man that faſteth long: And ſometime it betokeneth that exceſs of heat in the inner parts of the body, doth cauſe cholerick humours to abound, as in the fevers tertian

tertian. Beſide all this, it betokeneth thought, carefulneſs, and watching, and alſo over-much labour, and taking of heat in the Sun.

And thus have you heard the ſignifications of thin urine, both alone, and alſo with ſuch colours as it can be coupled.

Now ſhall you hear what thick urine doth betoken, both alone, and alſo with ſuch divers colours, as it may be coupled.

Thick urine (which is, ſo I mean, when it is firſt made) either it doth continue ſtill thick, or elſe it doth ſettle, and waxe clear. Thick.

If it continue ſtill thick, it betokeneth that that diſturbance which was in the bloud, that is to ſay, the rage of ſickneſſe doth ſtill continue ſtrongly: and that naturall ſtrength is but weak. This urine is not ſo good as that which doth ſettle and waxe cleer. For that doth betoken that the diſeaſe ſhal ſhortly be overcome: howbeit there remaineth yet ſomewhat of that diſtemperate trouble in the blood: yet nature hath the over-hand and expelleth the matter of the grief, and therefore is ſuch a urine called good, but yet it betokeneth ſome lack of concoction, though not ſo much as that which continueth troubled and thick ſtill.

Alſo thick urine (if it be exceeding thick) doth betoken death, as *Hypocrates* ſaith,

And the urine that is thick and troubled, li not c
beasts urine, doth betoken head ach, eithe also
present already, or shortly after to com da
If thick urine appeare in an ague, whe chan
thin urine went before, it betokeneth th ters
the sickness will abate straightwaies, for N
declareth that nature hath overcome the ma lour
ter of the sickness: but if it appear thick doth
the beginning of the ague, and do not wa signi
thin in process of time, it betokeneth plen spec
of matter, and weakness of nature; so th colo
there is fear left nature should be overcom dea
except the colour do amend.

Thick urine also betokeneth openne tok
Thick and white. of the water pipes and reins. And if it b tinu
thick and white, it betokeneth great plen wit
of raw humours, and sundry kinds of fleg by
to be gathered in the bodie: and betokene dot
also (namely if it be much) that those gath
rings, which might be looked for in so do
agues shall not ensue, for the matter whi it
should cause them departeth out by urine wi
but the whiteness of this urine is bright be
snow. For if it be somewhat darker li ha
the whiteness of milk, it is a token of t
stone, either in the bladder or reins, name If
if such urine chance in the end and amendi ha
of sickness. er

Grey. But if the colour of it be grey, it betoken ni

not only plenty of matter in the body, but also that the whole body is possessed with a dangerous sickness, whereof oftentimes it chanceth the patient to break out with blisters and heat in his skin.

Next after this followeth thick claret colour (for flaxen, yellow, nor saffron colour doth not agree with thick urine) and it doth signifie that the disease shall continue long, specially if the ground of it be also of claret colour. But yet this disease without perill of death. Thick and claret.

Thick urine, if it be red coloured, doth betoken abundance of blood, as is seen in continuall Agues, and in all perillous Agues, as witnesseth *Theophylus*. If this water come by little and little, it is an evill token, for it doth alwaies declare danger. Thick and red.

And if that sort of urine (in such Agues) do waxe troubled, so that there come with it deafness of hearing, and ach of the head, with pain in the neck and in the sides of the belly, it betokeneth that the Patient shall have the falling evill within a seven night.

And if a thick urine have a crimson colour, If it bee burning Agues, and the Patient then have the headach, it betokeneth that a chief criticall sign either is then present, or else nigh at hand. Thick and crimson.

But

Thick and blew. But if the urine be thick and blew colo red, it ſignifieth diverſly, as the perſons that made it. For in them that are in of recovery, it betokeneth that they eſcape their grief. It ſignifieth alſo p in the water-pipes, or elſe that the pa hath runn much.

And if it appear ſuch in old men, and t continue long, it declareth not only that bladder is infected with evill humours, b commonly alſo that he ſhall be rid of the But if it come after the grief of the ſtone, declareth that the grief ſhall be turned in the ſtrangurie.

Thick and green. Thick urine and green, namely in Agu is a token of the yellow Jawnders, eith preſent, or ready to come.

Thick and aſh coloured. Thick urine and aſh coloured, if it appe in Agues and do not ſettle, it is a ſign of mad neſſe, But in the burning Ague, it betoken eth that the ſtrangurie will come ſhortly.

Thick and black. But if a black colour appear in thick urine it betokeneth ſometime well, as in the en of the Fever Quarten, and of melancholike madneſs, for it betokeneth that the melancholike matter, which cauſed the diſeaſes doth avoid out.

But ſometimes it is an evill token, for it ſignifieth that either the blood is burned through

rough exceeding heat, or elſe that natu-
l heat is clean quenched through deadly
ld, and therefore is commonly called a
adly ſign, namely in ſharp Agues, if it
ve an evill ſavour. And ſo meaneth *Galen*,
hen he ſaith, that he marked, *The thicker*
at a black water is, the worſe it is, and
oreover, *That he never ſaw any eſcape,*
hich made ſuch Urine.

And thus have you heard of the ſignifica-
ons of thin and thick urine, with ſuch co-
urs as may be coupled therewith.

Now will I write a little of the colours a-
one, and of ſuch tokens as come chiefly of
hem, rather then of the ſubſtance or any
ther part of the urine.

The colours of urine declare commonly, how heat and cold do reign in the body, ſo that the whiter the urine is, the greater is the cold, and natural heat leſſe; and the higher coloured that the urine is, the greater is the heat. Colours of urine.

But to ſpeak particularly, that you may perceive it the better. If the urine be white, it is a ſign that concoction faileth quite, and the lighter coloured, the worſe. White.

Pale colour is better ſomewhat, though it alſo declare lack of naturall heat and ſtrength. Pale.

And flaxen colour, though it betokeneth beginning Flaxen.

beginning of concoction, yet it is not p
fect: howbeit it may be well taken, if all
ther signs be good.

Pale, light saffron. Pale and light saffron (as you have he
before) are the beſt colours and moſt tem
rate, which betoken exact concoction.

Golden saffron. But golden and saffron colour declare
ceſs of heat.

Claret red. Claret is next, and then red, after it cri
Crimson ſon, and then purple, then green, and
Purple. of them is oily urine, which as they goe in
Green oily. der, ſo they declare greater and greater h
with increaſe, not only of the qualitie, b
alſo of the matter containing the ſame.

Blew aſh-colour. But now of the other ſide, blew urine, a
aſh colour, are tokens of exceſſive col
ſometime with matter, and ſometime wit
out; and ſo likewiſe of black urine, howb
it it cometh ſometime of exceſs of heat.

But how you may know the differenc
both of it and all the other, now will I ſhe
in order, with the reſt of their ſignificatio

White. White urine, if it come in great quantit
in a whole man, it betokeneth much drink
ing of thin wine.

But if it be mean in quantity, with a du
ground, it declareth cold diſtemperance o
the liver. The urine doth appear white, wit
a diſ-form and unconcocted ground, in the
th

hat have the dropſie. But in old men, white rine is no great evill ſign, as you may per-eive by that I ſaid before of Ages, how hey alter urine. But in yong men, and ſuch s are of freſheſt age, it is a worſe ſign, and pecially if it have either no contents, or lſe evill contents. And if urine continue ong time white without changing, it beto-eneth painfull beating of the head, daſelling f the eies, and giddineſs, and alſo the fal-ing evill, lothſomneſs of good meats, and ufting ſometime after evill meats, greedie unger, pain in limbs, and painfull moving f the ſinewes, and divers griefes of the ead and reines, and alſo pain in the fun-dament, and great weakneſs by ſickneſs, or all theſe doe follow continually lack of oncoction, either cold, or ſtopping of the rines and conduct, or tranſpoſing of the umours.

But the differences of theſe cannot eaſily bee known of every man, yet ſuch as are learned may gather certain diſtinctions of them by the accidents which follow diſ-eaſes.

Milk white, hornwhite, gray.

Dark white colours, as milk white, white, white like horn, and grey, If they appear in the beginning of Agues, and in the increaſe of them, they doe betoken much pain. But

in

in the decreaſe of Agues, they declare h
eſpecially if it come plentifully.

Pale, flaxen. Pale urine and flaxen, do not light
pear in Agues, except they be eaſie A
and ſhort, as thoſe which continue but
day, but if that it do follow after bu
Agues, it declareth that they be fully d
ved.

Pale, ſaffron. As for pale and light ſaffron, they are
I ſaid before) the beſt and moſt perfect
lours, namely, in young men and
youth. But in old men, women and chil
(whoſe urine, as I have ſaid, declineth
ward white and pale) it doth betoken
their bodie is too hot, either by reaſon
their diet, or elſe of their exerciſe. B
as much as it is but mean exceſſe, it decla
but ſmall grief.

Golden ſaffron colour. Golden and ſaffron coloured urine,
be either ſomewhat thin, or very thick,
ther it hath no ground, or elſe very few,
dark contents. But in this they differ,
golden urine declareth exceſs of heat,
matter alſo, by reaſon of meats, ſharp me
cines, chafing of the bloud through ang
heat of the bowels, or elſe heat of the
of the yeer.

But ſaffron colour appeareth rather w
default of matter, through ſome affection

he mind, watching, heat of the ſun, labour, nd ſuch like things, which increaſe thin and ellow choller, and diminiſh naturall heat, o that the cauſe of this colour is choler it elf, increaſed either in quantity, or elſe in ualitie. But in old men and women, and ch other, there is ſome greater cauſe that ecaſioneth it, for it ſignifieth an Ague com- h of ſaffronly choler diſperſed through the whole body; after which there followeth ommonly giddineſs, headach, bitterneſs of he mouth, lothſomeneſs of meat, thirſtineſs, lſo in yong men, ſuch urine is cauſed hrough much exerciſe, and uſe of hot meats.

Of Claret, and red Urine.

Claret and red urine is coloured either of the mixture of red choler, or elſe of the corruption of bloud; ſuch urine oftentimes goeth before Agues. For when the blood loth ſo abound, that it cannot be duly la- boured, nor can take no ayre, there is en- gendred a certain corruption, which as it is ed of colour it ſelf, ſo it cauſeth the urine o be red in colour if it be much, elſe it ma- eth only claret colour. But if it be exact ed lik grain, it betokeneth that bloud iſſueth nto it, out of ſome veins nigh to the reins, which

Claret urine.

in the decreaſe of Agues, they declare h
eſpecially if it come plentifully.

Pale, flaxen. Pale urine and flaxen, do not light
pear in Agues, except they be eaſie A
and ſhort, as thoſe which continue but
day, but if that it do follow after bu
Agues, it declareth that they be fully d
ved.

Pale, saffron. As for pale and light ſaffron, they are
I ſaid before) the beſt and moſt perfect
lours, namely, in young men and
youth. But in old men, women and chil
(whoſe urine, as I have ſaid, declineth
ward white and pale) it doth betoken
their bodie is too hot, either by reaſon
their diet, or elſe of their exerciſe. B
as much as it is but mean exceſſe, it decla
but ſmall grief.

Golden saffron colour. Golden and ſaffron coloured urine, i
be either ſomewhat thin, or very thick,
ther it hath no ground, or elſe very few,
dark contents. But in this they differ,
golden urine declareth exceſs of heat,
matter alſo, by reaſon of meats, ſharp me
cines, chafing of the bloud through ang
heat of the bowels, or elſe heat of the
of the yeer.

But ſaffron colour appeareth rather wi
default of matter, through ſome affection

he mind, watching, heat of the ſun, labour, nd ſuch like things, which increaſe thin and ellow choller, and diminiſh naturall heat, o that the cauſe of this colour is choler it elf, increaſed either in quantity, or elſe in ualitie. But in old men and women, and ch other, there is ſome greater cauſe that ccaſioneth it, for it ſignifieth an Ague com- th of ſaffronly choler diſperſed through the whole body; after which there followeth ommonly giddineſs, headach, bitterneſs of he mouth, lothſomeneſs of meat, thirſtineſs, lſo in yong men, ſuch urine is cauſed hrough much exerciſe, and uſe of hot meats.

Of Claret and red Urine.

Claret urine.

CLaret and red urine is coloured either of the mixture of red choler, or elſe of the corruption of bloud; ſuch urine oftentimes goeth before Agues. For when the blood loth ſo abound, that it cannot be duly la- boured, nor can take no ayre, there is en- gendred a certain corruption, which as it is red of colour it ſelf, ſo it cauſeth the urine o be red in colour if it be much, elſe it ma- keth only claret colour. But if it be exact red lik grain, it betokeneth that bloud iſſueth into it, out of ſome veins nigh to the reins, which

which either are broken, or other wais pened. But how it may be known f whence it commeth, and how, there are ny means to search, but because they are light to perceive, I will reserve them for P sicians that are learned. This colour d self is no great evill sign, namely in yo men, for it betokeneth exceſs of bloud, wh may well bee born of them. But in old m it is a very evill sign, for it betokeneth ther long sickneſs, or elſe death, ſith nat is ſo weak that it cannot keep in her nat humour. And if that red colour, com red choler, as it doth in young men, for moſt part and not of blood (which thin learned Phyſician may conjecture partly the former diet, and other ſigns more) accidents ſhal be the more troublous; ho beit yet not ſo evill, as when it commeth ſaffron or golden choler, for this cauſe greater thirſt, and more troublous ſleep th the other.

Of Crimſon colour.

Crimſon colour.

CRimſon colour is a token that the go humours of the bodie are burned, a turned into red or black choler, which cau worſe griefs then the other; howbeit if ha

have a good ground, the grief is the more moderate: But if it have either no contents for a ſpace, or elſe evill contents, and the urine appear like a thick myſte, but ſomewhat gliſtering light, it is a ſign that nature needeth ſuch ſtrength to recover her ſelfe to her own ſtate. Notwithſtanding ſuch urine is cauſed ſometime in whole folk, by reaſon of much labour, and long journying, and then it hath ſome good ſigns therewith. But in them that have a ſharp Ague, ſuch crimſon colour of urine doth betoken that corrupt blood doth abound, and that it doth putrifie, and turn into choler. And commonly they that make ſuch urine, doe thirſt much, and are dry in their mouth, and are troubled in their ſleep, and feel ſharp Agues, and are half diſtract, and feel pain of the liver with coughing.

Howbeit, yet theſe ſigns may be ſometimes as well good as bad, according as the colours do change to better or worſe.

Of Purple Colour.

PUrple colour declareth need of much ſtrength before it can be altered to a good urine. Purple colour.

This urine is a ſign of burning choler. And if it do continue very long, it is a token

of the yellow Jaunders, with abundance groſs and corrupt choller, gathered in the ver. And at the beginning there goeth with it ſome ſpices and grudgings of the Ag with a little thirſtineſs; but unleſs there diſcretion uſed in the diet of ſuch a Patie it may turn to a much worſe diſeaſe.

Of Green Urines.

Green colour.

GReen colour is an evill and a danger token, for it needeth not only long tim but alſo cotinual ſtrength to bring it ag to a good trade. The higher that this colo is, the more it declareth that choller exce eth the other humours: which if it be more burned, will cauſe black urine, which I will anon ſpeak. But if green lour come of waſting of the fat, then i ſomewhat like to oylie colour, or popin green: but if it come of abundance of pur liſh colour, and through increaſe of his q litie, then doth the colour incline more ward black, and gliſtereth with ſhadow green, drawing very nigh unto black. Af green choler followeth madneſs, parbre ing, and avoiding of choler, ſometimes wi matter, or elſe burned: and alſo continu thirſtineſs, and burning heat of the tong

ſtraigh

ſtraightneſs about the ſtomack. And like other things. But if the patient continue ſtrong, and the colour of the urine do waxe lighter, there is good hope, elſe there is great fear, leaſt of the dryneſs and burning, there do follow contraction of the ſinews, which will kill the patient.

Of Oilie Urine, or Popinjay Green.

OYlie Urine is of three ſorts, as I ſaid in the fift Chapter, that is, light oylie, ſtark oylie, and dark oylie. Oilie urine, or popinjay green.

Oylie urines are a token of unnatural heat, and the higher that the colour is, the greater is the heat. And alſo they betoken melting of the fat within a man, for of it are they ſo coloured. But at the beginning, when there is a little fat melted, the urine is light oylie. For if it look ſtark oylie, then it ſignifieth that the diſeaſe increaſeth. But if it come once to dark oylie, then is the diſeaſe ſore increaſed. *Hippocrates* in the ſeventh Book of his *Aphoriſms* ſpeaking of fatneſs in urine, ſaith thus: *Who ſo maketh urine with fatty ſtotes comming much and faſt, they have ſharp pains in the reins.*

Which ſentence though it ſeem more to appertain to the contents then to the colour,

yet doth not onely *Galen*, but also *Aetius Actuarius*, and also another *Grecian*, (whose name I know not) expound it amongst colours: and by it declare the difference to know whether that wast or melting fat be in the reins it self, or in other parts the body. For if it come fast together, (as *Hippocrates* saith) then commeth it from the reins it self, and betokneth the wasting be in them. But if it come softly and increase by little and little, then doth it declare that the whole body is overcome with unnaturall heat, and that the fat of it doth waste: it doth betoken (as *Act.* witnesseth) a wasting Ague, consuming the body.

Of blew Urine, Ash-colour, and Black.

BLew colour, Ash-colour, and Black do differ only in lightnes and darknes. For ash-colour is darker then blew: and black is darker then any of them both.

Blew colour. Blew colour sometime cometh of moderate melancholy, and then is the urine somewhat thin in substance. And sometime it commeth of great cold, and then it is thick in substance. And sometime it is a token of mortifying of some part. Yea, and sometime even of whole nature: namely, if the colour change to worse and worse, and there were

before

before no token of concoction.

Ash coloured urine commeth of like causes, and betokeneth like things. Howbeit it is so coloured many times, when the party that made it, hath been sore beaten and bruised. But in this you need not the help of urine, for you may see the walts and tokens of the stripes in his body. Ash-colour.

Urine which is extream black, sometime betokeneth extream heat, and sometime extream cold, the which both you may distinctly discerne, if you doe observe order of alteration in the colours of the urine that the patient made last before. For if his urine before were green, or like thereto, then doth the black urine which follows it, betoken extream heat. But if it were last before blew or ash-coloured, then doth it signifie extream cold. This black colour though it be commonly an evill and deadly sign, as I said before, (speaking of thick urine and black) yet sometime it is a good token. Black urine.

For in all diseases lightly that come of melancholy matter, it betokeneth that the matter doth avoid, and so the sickness to end. And such urine doth appear many times after purgations or other meats and drinks which purge the splene; namely, if a man do labour upon them, that was before diseased of the splen.

How beit, ſometime meats and drinks of li
colour cauſe black urine, as *Galen* witneſſe
namely, *after dark red wine, and Allegant*

But in moderate Agues, if ſuch black
rine doe appear, it is a token of death, exce
it be on ſome Criticall dayes. And likew
in ſharp agues, eſpecially if the ſavour
ſtrong and ſtinking: unleſs it come of ſo
griefe of the bladder

Quantitie of urine.

Let this ſuffice for this time, as touchi
colours. Now for the quantitie of urine,
when it is mean, it is a good token: ſo wh
it is either too much, or too little, it is an
vill ſign, except it come of ſuch cauſe, (as
ſhewed before) that altereth urine in
healthfull man.

Much in a whole body.

As firſt exceſſive quantitie of urine, com
meth of much drinking of thin wine, as Re
niſh wine, and ſuch like. But that ſhall y
thus know: for the colour will be whit
ly, and the ſubſtance thinner then a mean
the contents alſo will be divers, and not d
ly knit. Likewiſe if there be aboundan
of raw humours in a man unconcocted, a
yet nature perſevering ſtrong, then is the
great quantity of urine, and ſomewhat th
of ſubſtance, but not ſo white as the othe
and the contents of this are better. Al

4. Aph. 3. (as *Hippocrates* ſaith) *much Urine made*

the night, is a token of small sege; so that if any impediment let naturall sege, then will the quantity of urine be the greater. But in this as the colour is mean, so is the ground both greater and grosser, yet in healthfull folk may the urine, by another means also be greater then a mean, and that may be by medicines which provoke urine, but then is the colour more naturall then the last that I spake of, and the ground is thinner of substance, so that it is dark and scarcely seene, and then is there a certain glistering in the urine it self.

Now contrarie waies, and of contrary causes cometh small quantitie of urine. For it cometh sometime of lack of drinke, or dry meats, and then is the colour light saffron, with a smal ground, but yet somewhat grosse. Also both meats and medicines that are clammie, and apt to stop the water-pipes, do cause little urine, but then is the ground also little and thin. Little urine in a whole body.

Besides these, much sege causeth urine to be lesser, for if the one excrement be greater then nature would, the other must needs be lesse, if the body be healthful. In this urine, as you may partly know the cause of it by the knowledge of the excessive sege, so will the urine it self be thinner, and the ground very

dark, thin, and not duely knit. And th
many waies may this alteration appear i
healthfull body.

Much urine in a ſick body.

Now in a ſick perſon, much urine eith
betokeneth the dropſie, and then is it li
water, with a raw and diverſe groun
or elſe if it be white, thin, and witho
ground, then doth it betoken the piſſing
vill. And this urine (as witneſſeth *Galen*
in his firſt Book of Judicials) *is the worſt*
any other of like ſort, I mean which decla
lack of concoction, for it declareth the decr
yea I may ſay, the utter extinction of tw
naturall powers, that is, the retentive powe
and the alterative power alſo.

Diabete.

Much urine, in colour fierie, and light ſa
fron, or of any like colour, is to be feare
namely, if it be coupled with evill content
But if it be of crimſon or purple colou
and ſo proceed, eſpecially if no concoctio
went before it, then doth it encline to evi
and betokeneth a certain mortifying and w
ſting of the whole compoſition of the bod
But if much urine come in an Ague, name
ly toward the end, and that there went be
fore it little urine, thick and ruddie, then i
4. Aph 69. that a good token, as witneſſeth *Hypocrate*
for it betokeneth the Ague to be at an end
And this Urine will bee white and thi
mode

moderately, and will have a mean ground.

Now little quantity of urine, with a groſſe ground, unduly knit and unconcoct, is an evill token; for it betokeneth the weakneſs of the alterative power, which is not able to extenuate, concoct, neither alter the matter, and therefore doth it with much difficulty paſs forth in ſuch groſsnes. Howbeit, if there follow after it a more thinner urine, with the ground well and duly knit, and ſtable, then is it without fear. For this latter urine (as you heard before) is a token that the cauſe of the other is overcome and vanquiſhed. Little urine in a ſick body.

This little quantitie of urine cometh ſometime in vehement Agues, and then is the violent heat, cauſe thereof. Sometime alſo it cometh of the ſtopping of the water-pipes, not only through clammy meats and drinks, but alſo of ſome diſeaſe or grief in them.

And this now ſhall ſuffice for an Introduction, as touching the ſubſtance, colours, and quantitie of urine.

It followeth next, to ſpeak of the contents which ſo greatly help to the right judgement of urine, that *Hippocrates* (in his ſecond book of Prognoſtications) doth by them only; yea, and that by one of them (I mean the ground (pronounce the judgement Contents.

of a perfect urine; saying, *That that is the best Urine, which hath his sediment or ground, white, duly knit and stable, and that continually all the time of the sickness.*

Sediment.

Now seeing this great Clerk and Father of Phyfick, doth thus esteem the ground, it shall not seem unmeet, that I orderly do write briefly of those principall things that are to be considered, as touching the contents; and first of all of the ground, which hath alteration (as you have heard) both in substance, colour, and quantitie.

But now as touching the substance? then is it only mean, when the third concoction in the veins is perfect. For the ground is the excrement (as you might say) of that third concoction, and is like in forme to matter, save that it is more duly knit together then is matter, and doth not smell so evill as it; or else you may liken it to thin fleam.

Grosse ground.

This Ground is then gross, when the veins are repleniſhed with raw humors. Howbeit this grosseness or thickness is not alwayes an evill token; for sometime it is a sign that nature hath prevailed against the crude humours which caused diseases, and doth expell such superfluous excrements. And that shall you discerne by the goodness of the colour, and also if it come in the declining

clining of the ſickneſs: for if it come at the beginning, either in the increaſe of the ſickneſs, then are they to be ſuſpected as evill; eſpecially if they bring with them evill colours.

A thin ground, being alſo pure, and ſo cleaving to the bottom of the Urinal, that it will not lightly riſe, though the urinall be ſhaked, it is a token of great weakneſs of nature in the third concoction, and ſuch a ground appeareth moſt in white and watrie urine. Howbeit ſometime a thin ground cometh by the reaſon that the raw humors are extenuate through naturall heat, which getting new ſtrength, doth extenuate and diſperſe all groſsneſs of raw humors within the veins. For the propertie of heat, is to knit and bind together thin things, and to extenuate and diſperſe groſſe and raw things. Thin ground.

Now as touching the colours of the ground, the perfect ground is neither exceeding white, neither yet pale, but mean between both, for if there appear any ſuch exceſſive white, then is it ſome rag of phlegmatick matter, or elſe matter extreamly concocted, which commeth from ſome inward member being ſore; and that you may diſcern (as I ſaid before) by the toughnes, and by the ſavour. And Colour of the ground

And if any man be desirous to know the cause why the ground is white of colour, let him remember, that the ground is the superfluous excrement of the bloud being perfectly concocted in the veins. Now that the bloud it selt, when it is exactly concocted, is turned into a white, or at least, a party white colour, you may conjecture by the generation of milke, and also the seed of man, yea, and of matter, which all three are nothing else but bloud, exactly concocted, save that matter cometh of evill bloud.

And therefore whensoever the ground hath in it any other colour then white, it is no good token: As first, if it be pale and flaxen coloured, then it is swarved from his right and commendable colour. Howbeit, yet it may be born as but meanly evill, because that that colour commeth of small excess of choler.

Pale.
Flaxen.

But if it be more higher coloured by choler, so that it be saffron coloured, then is it an evill token (as *Actuarius* saith) for it declareth that choler is excessively increased, either by the order of diet, or else by the corruption of bloud, or some other wayes. Howbeit *Hippocrates* in his *Aphorisms*, seemeth to say the contrary; for he saith, *That when the ground is so colou-*

Saffron.
Actuarius.

7. Aph. 32.

red

red of choler, especially if at the beginning of the sickneſſe it were waterie to ſight, then doth it betoken a quicke ſickneſs; that is to ſay, as *Philotheus* expoundeth it, a ſickneſſe, that will ſhortly be ended, and ſo it may juſtly be called a good ſign. Notwithſtanding as in this point it is a good token, in that it ſignifieth that the diſeaſe is nigh the end, ſo it may be called (as *Actuarius* calleth it) an evill ſign, becauſe it doth betoken a cholerick ſickneſs, and that choler doth unnaturally abound. *Philotheus.*

And if this anſwer do not content you, (though it content *Antonius Muſa*) than may you ſay more better (as I thinke) thus: That if the ground be at the beginning of the ſickneſs coloured with choller, and ſo increaſe (as *Actuarius* ſeemeth to mean) then is it an evil token indeed, for it declareth both the abundance, and alſo the encreaſe of choler. But if the ground, at the beginning of a cholerick diſeaſe were watry, that is, white and thin, and afterward turn to ſaffron colour, which is the exact colour of choler: or elſe to a yellow colour (which is ſomewhat leſſe cholerick) then is it a token that the cholerick matter, which before lay lurking in the body, doth now begin to avoid; and ſo the cauſe of ſickneſſe, *Antonius Muſa.*

thus

thus by nature expelled, health muſt nee
follow.

As contrariwiſe, if after yellow or
fron colour it change unto whiter, and th
be no certain token of concoction, then it
an evill ſign, and a token of phrenſie. Ho
beit, if there be any token of certain co
coction, then is the ſame a good ſign,
that if you take heed, you may percei
here what a neceſſary thing it is to obſer
order in the alteration of urine, of whi
I have partly ſpoken before.

Claret colour. Red. Bloudie. Now therefore to goe on If th ground bee of claret colour, either red blew, the token is not good. For theſe blo dy colours come either of too much abu dance of bloud, or elſe by reaſon that th retentive power is ſo feeble, that it canno keep in the good humors, but ſuffreth the to run out.

Claret red. Claret colour and red, doe betoken a ce tain default of concoction in the veins, an that through the exceſs of red choler. Bu yet this default is but mean and witho danger, ſeeing that the hurt is only by quan tity, whereas ſome other do hurt both b quantitie and qualitie alſo.

Bloudie. Bloodie grounds are altogether worſe then red (though they be better then aſh-

colou

coloured, and black) for they betoken that the bloud is nothing duely wrought, especially if their quantitie be much, withall, for then the quantity of matter doth let the powers to work, which thing yet as it may be born, so it declareth need of long time to recover health.

But if this doe come through weakneſs of the powers in themſelves, then is it an extream evill ſign: for it betokeneth that the powers are overcome with wearineſs in working, and be not able to keep in the good and profitable humors. Which thing to diſcern more exactly, you ſhall take artificiall conjectures by other circumſtances, which give alſo tokens of judgement; namely, as by the age of the perſon, by his order of dyet, and ſuch like.

Now to make an end with the other colours which are of a dark hew, as blew-aſh-colour and black: Theſe of all other are the worſt, and moſt envious to nature, and the nearer they cleave to the bottome of the urinall, the worſe they are. Blew. Aſh-colour. Black.

Theſe colours come of a black melancholy humour, being ingendred within the veins, or elſe coming from ſome other part into them: or elſe it betokeneth deadly mortifying. But ſometimes it cometh of fore-

ſore bruiſing and ſtripes, and generally
cometh (namely the black) either of exc
ſive cold or exceſſive heat.

And now for a concluſion, whatſoeve
have ſaid of the ground, you ſhall unde
ſtand the ſame to bee ſpoken of the ſwi
and the cloud; for they are in kinde but o
thing, ſave that they differ in lightneſs a
heft, and therefore alſo in places: But t
judgement of their ſubſtance and colour,
much after one rate, though ſome diff
rence there be, as you ſhall hear hereafter.

Quantitie And likewiſe of their quantity, whi
as it is then only commendable when it
mean, ſo if it be greater then a mean, it do
declare ſome alteration in man, though no
alwayes extreamly evill, for ſometime it
a token of fatting, or growing to a corpo

Great. rateneſs, and that it doth ſignifie, if no
other evill ſign be coupled with it. Fo
though the perſon feed much on nouriſhin
meats, and that with reſt and an idle life, ye
naturall heat appeareth ſo ſtrong, that ſhe ca
eaſily concoct ſuch meats. According t
this ſaith *Galen* in his Judicials, that th
plenty of the ground in urine betokeneth
certain and exact with concoction: And
that as the body is repleat with crude
humours, ſo it declareth that thoſe ſame be

in expelling out at that preſent time. And for this cauſe (ſaith he) in all children commonly, and in men alſo which feed much, or bee of ſome other cauſe replete with humors, their urine hath a great ground.

Alſo oftentimes it chanceth the pores of the skin to be ſtopped, ſo that ſuch excrements as were wont to paſs out by them, are inforced to ſeek a new paſſage, which they find moſt readieſt by the urine, and thereof are the contents, and namely the ground, oftentimes encreaſed. And all theſe waies chance in health. But in ſickneſs, it chanceth many and groſſe ſuperfluities do appear in the urine, as often as the naturall powers, namely, the alterative or concoctive power being weakned, ſuch crude humours paſs out undefied.

So doth it chance (as witneſſeth *Alexander Trallianus*) *That the urine of them which have the Collick, is flegmatick and hath a great ground.* But if the contents be either great, or groſs in the beginning, or in the augmenting of ſickneſs, (namely if the Patient have any notable Ague) it argueth abundance of humours, to the concoction of the which there needeth both ſtrength of naturall powers, with time and good ſpeed. Tral. 2. cap. 33.

fore bruising and stripes, and generally cometh (namely the black) either of exc five cold or excessive heat.

And now for a conclusion, whatsoeve have said of the ground, you shall unde stand the same to bee spoken of the swi and the cloud; for they are in kinde but o thing, save that they differ in lightnes a heft, and therefore also in places: But t judgement of their substance and colour, much after one rate, though some diff rence there be, as you shall hear hereafter.

Quantitie

And likewise of their quantity, whic as it is then only commendable when it mean, so if it be greater then a mean, it do declare some alteration in man, though n alwayes extreamly evill, for sometime it a token of fatting, or growing to a corp

Great.

rateness, and that it doth signifie, if no other evill sign be coupled with it. Fo though the person feed much on nourishin meats, and that with rest and an idle life, ye naturall heat appeareth so strong, that she ca easily concoct such meats. According t this saith *Galen* in his Judicials, that th plenty of the ground in urine betokeneth certain and exact with concoction: And that as the body is repleat with crude humours, so it declareth that those same be

in expelling out at that preſent time. And for this cauſe (ſaith he) in all children commonly, and in men alſo which feed much, or bee of ſome other cauſe replete with humors, their urine hath a great ground.

Alſo oftentimes it chanceth the pores of the skin to be ſtopped, ſo that ſuch excrements as were wont to paſs out by them, are inforced to ſeek a new paſſage, which they find moſt readieſt by the urine, and thereof are the contents, and namely the ground, oftentimes encreaſed. And all theſe waies chance in health. But in ſickneſs, it chanceth many and groſſe ſuperfluities do appear in the urine, as often as the naturall powers, namely, the alterative or concoctive power being weakned, ſuch crude humours paſs out undefied.

So doth it chance (as witneſſeth *Alexander Trallianus*) *That the urine of them which have the Collick, is flegmatick and hath a great ground.* But if the contents be either great, or groſs in the beginning, or in the augmenting of ſickneſs, (namely if the Patient have any notable Ague) it argueth abundance of humours, to the concoction of the which there needeth both ſtrength of naturall powers, with time and good ſpeed. Tral. 2. cap. 33.

Little Contents.

And now contrary wayes must you judge of the smalnes of the contents, for they be caused either of great labour, long fasting, stopping, or obstruction of the veins, and such like parts, or else of slackness of concoction. And (as *Galen* saith) when the body is replete with crude and raw humours, then is the ground great, but if the body be repleni shed with cholerick humors then is there in the urine either little ground or none at all; but in such case it is well, if there be any sublimation or swim.

Gal. 2. pref. Hip. 26.

Urine without ground.

Now seemeth the place most meet to speak of such urines as have no ground at all, nor other orderly content, and that will I doe by the order of the colours of the urine, according as *Actuarius* proceedeth.

The urine that is very white, and exceeding thin, and so lacketh the ground, doth betoken either some notable obstruction, either immoderate cold, or else cruditie and lack of concoction. And as these tokens may be greater or lesser, so shall the things which they betoken bee judged in like rate, either more, or lesser.

But if the urine bee pale coloured, or flaxen, and then lacketh contents, as it doth declare lesser obstruction, so it doth signifie as great cruditie, as the other before.

And

And ſo ſhall you judge of urine that is yellow or flaxen coloured. For in them it appeareth, that naturall heat doth prevail. Notwithſtanding ſuch things (I mean the default of the ground with thoſe colours) may chance (as often they doe) through vehement pain, immoderate labour, long watching, and alſo default of matter.

But ſuch urines as be higher coloured then theſe that I have named, by their colours they declare the qualities of the humours which doe prevail: and alſo betoken a certain putrefaction, and cruditie in the veins.

It chanceth alſo ſometimes, that ſome gathering ſore being in ſome of the principall members, by his unnaturall heat withdraw thither the matter (even as it were by cupping) and ſo doth cauſe the urine to have no ground. And though, indeed, it is never a good token to lack the ground in a urine, yet it is leſſe to be complained of, if the colour and ſubſtance draw nigh to a mean; for in ſuch a caſe it betokeneth, that though nature be ſomewhat ſlack, yet will ſhee ſhortly gather ſtrength, ſo that there ſhall appear a ground in the urine.

Now to ſhew you the reaſon, why it chanceth no ground to appear in the urine: Firſt,

in caſe of cruditie, when there wanteth perfect concoction, there muſt needs want alſo the contents in the urine; for they are the excrements (as you might ſay) and the ſuperfluities of the third concoction. Likewiſe though concoction be perfect enough, yet may there want the contents, if there be any notable obſtruction or ſtopping of the veins, namely, ſeeing the contents are ſomewhat groſs of ſubſtance, and therefore unable to paſs, if the way be any thing ſtopt.

After the ſame ſort ſhall you judge of long faſting and default of meat, and moreover of ſuch meats as are unapt to concoct. For in all ſuch caſes, there can be ingendred few or no contents.

And contrariwiſe, though nature doe work many ſuperfluities, yet if the wombe be ſo looſe that it yeeldeth many ſeges, then as the urine ſhall be the leſſer, ſo ſhall the contents be few or none: for nature then doth expel by ſege, thoſe ſuperfluities, which ſhould cauſe the contents.

And likewiſe, when there is in any part of the bodie an inflammation or exceſſive heat, which doth draw matter to it, either that any of thoſe parts are weak, unto which nature is wont to expell ſuch ſuperfluities; for in all ſuch caſes there may want the

ground,

ground, and the other contents in the urine. And as for some of them (I mean crudities and opilation) they may be well enough bornwithal, unles their continuance be long.

But now again, there is great difference touching the time of the sickness in which it chanceth, for in the beginning and increase of sharp Agues, if the ground be lacking, it betokeneth great weakneſſe of naturall strength, which if not prevented, may continue unto the chief strength of the sickneſſe. And after such an urine, there doth follow much waking and disquietneſs, halfe madneſs and trouble of mind, and all those shall bee according to the greatneſs of the Ague, either extream or mild. And sometime it is a token that there shall bee a gathering sore in some part of the body, namely, if other agreeable causes come therewith, as a winterly disposition of the aire, with an uncertain state of sickneſs, and unconstant alteration, and mean weakneſs of the Patients power. But in the declination of the sickneſs, such urine ought not greatly to be blamed, for then hath nature escaped the brunt of sickneſs, though she be yet weak. Yea, and in the chief strength of sicknes (as well as in the declination) it may seem no strange thing, if nature (as though al-

ready ſhe had the over-hand) do gather her power together, and draw a little nouriſhment to her ſelf, and thereby cauſeth little or no ground to appear. But afterward when ſhee is ſomewhat refreſhed, and doth more liberally nouriſh the body, then doth ſhee ſhew forth contents in the urine. And lightly the order of the contents is ſuch, that firſt there appeareth a cloud, which afterward doth gather more ſtrong and weightie ſubſtance, and doth become a ſwim or ſublimation: And laſt of all, when it hath gathered a right naturall whitneſs, and due ſubſtance, then will it grow to a ground.

CHAP. IX.

Of difform Contents.

OTher things ſhould I here ſpeak of, as touching the Judiciall of the contents, both of their ſtableneſs, that is, their continuance in good form, and of their due knitting, being neither tattered, nor diſperſed, nor yet overmuch clodded together. But becauſe the exact judgement thereof exceedeth the capacitie of mean wits (for whoſe ſake I have written this Book) and cannot lightly be perceived of them, but by the Inſtruction

ſtruction of a lively voice, I wil for this time overpaſs the exact and perfect declaration of them reſerving it to a place more due: And now will I briefly over-run the other things which remain to bee conſidered in urine, but yet not without ſome mention of thoſe other, as occaſion commeth: and firſt thoſe difform Contents which occupie the place of the ground, and therefore take his name alſo.

Difform contents.

Of this ſort there are four principall: the firſt is in bigneſs of a ſmall fatch, and red coloured, which you may call therefore red fatches, becauſe of their likeneſs. Theſe (as witneſſeth *Galen*) *are ingendred of the conſumption and waſting of the fleſh, when the fatneſs is already melted away.* But in this there is great difference, for ſometime it is only the waſting of the reins, and ſometime of the whole body; as if there appear in the urine tokens of due concoction, then is that waſt in the reins onely. But if there appear in the urine default of concoction, (namely being great) or if the patient have an Ague, then is it the waſt of the whole body, and that ſtandeth well with reaſon, that when it betokeneth the waſt of the whole body, there muſt needs appear default of concoction; for in ſuch caſe thoſe

Red fatche. 6. Epid.

parts which are the Instruments of concoction are so weakned, that they cannot do their office. These contents, by reason that they are gross and heavie, therefore they appear alwaies in the bottom of the urinall.

Brannie contents.

Other differm contents there be also, of which some are like bran, and some like scales. And of those that are like bran, there is one sort smaller, and another grosser; the smaller sort is like the bran of Wheat that is finely ground, and those may I call fine bran. The grosser is like bran of Barley, or of evill ground wheat, and may therefore be called gross bran, for it is thrice as big as the other.

Fine bran.

Gross bran.

Scales.

The third sort which is like Scales, hath no notable thickness, but onely breadth and length. These three doe betoken waste of the strongest parts of the bodie; but yet not all alike, as *Hippocrates* doth declare in the second Book of his Prognosticks. Howbeit, because that place of *Hippocrates* is so difficult, that scarcely the great learned men can agree thereon, I will not now meddle therewith, but will write *Actuarius* mind of those three.

Fine bran.

When the Ague (saith he) *is grounded in the bottome of the veins, then there appeareth such fine bran.* Howbeit, sometimes it

it is a token of the onely grief of the bladder being ſcabbed, as witneſſeth *Hypocrates*, 4. *Aphor.* 77. But then hath the Patient no Ague, and again, there doth appear tokens of concoction in the urine. But when it cometh of the whole body, this is the cauſe thereof; The Ague getting power and prevailing unto the hard parts of the body (as in thoſe Agues which are called Fevers hectike) then in the ſtriving between thoſe parts and the Ague, the Ague having the maſterie, doth by his violence raiſe of ſuch brannie ſcurffe. For the nature of fire (whoſe operation the Ague hath) is to work according as the matter is that it findeth, either to melt it, if it be a liquid and unctuous thing, either elſe to ſcale it and fret it, if it be hard and unpliant: and the harder that the matter is, the greater ſcales it fretteth off; which thing you may ſee by daily experience, how fire melteth wax and tallow, and ſuch like, turning them into liquids: whereas of iron and of other metals, it maketh ſcales and not liquor. Scales.

But when the Ague hath attained and overſet, not onely the ſubſtance of the veins, but alſo the ſtrong parts of the body, and doth melt and waſte them, then doth there appear in the urine, ſcales, broad

and

and thin, which you ſhall know to come of the whole body (as I ſaid of the other before) if the Pacient have an Ague, or there appear default of concoction in the urine: elſe if theſe two be abſent, it may come of the bliſtering of the bladder, as *Hippocrates* writeth 4. *Aphor.* 81. and namely, if there be in the urine an evill ſavour withall.

Groſs bran. Now to ſpeak of the great and groſſe bran, which as it is much greater then the other, ſo doth it declare a greater ſtrength of the Ague, and that in the whole body and all the parts of it, enflaming and burning the whole ſubſtance thereof, and therefore is it not only the worſt of them all, but

Note. nigh unto a deadly ſign, and that either by the waſte and conſuming of the great and ſtrongeſt parts of the body, or elſe by the burning or drying up of the bloud. Which two things you may diſcern aſunder by the colour of them. For if they be red, then come they of the burning of the bloud; but if they be white, then come they of the waſte of the ſtrongeſt parts of the body.

Hippoc. 7. *Aphor.* 31. Of this kind of contents ſpeaketh *Hippocrates* ſaying: *In whatſoever Agues there doth appear grounds like unto groſſe bran, it is a token that the ſickneſs ſhall continue long.* Which ſaying, *Galen* doth underſtand

ſtand ſo to be true, *If the Patient have ſufficient ſtrength to continue with ſuch ſickneſs, elſe it may be a ſign rather of ſhort life, then of long ſickneſs.* For as that token is commonly deadly, ſo thoſe few that doe eſcape, do recover hardly, and not without the long ſufferance of the violence of that cruell Ague.

Now as touching the foreknowledge of it, whether the patient may endure with it or no, that ſhall you gather of the multitude, order, and ſtableneſs or unſtableneſs of it. For if they be many in number, and proceed to worſe and worſe, then it is an evill and mortall ſign, and doth declare that nature is wearied and doth quite faint thorow the waſte and decay of the whole conſtitution of the body: But contrariwiſe, if they appear few, and do alter continually unto leſſe evill tokens, then is there good hope of health. And this ſhall ſuffice as touching theſe.

Now to ſpeak of the reſt, of the ragged ſcraps, hairs, and other like: Firſt you ſhall underſtand, that ſometime a good ground is coupled with certain evill and unconcocted fragments of all ſorts of humours, for ſometime there appeareth with the contents certain ragged ſcraps, enclining in Ragged ſcraps.

in colour toward a yellow, or a white, elſe ſome ſuch like, if thoſe appear in great quantitie, they declare the matter to be unconcoct, and that the humour (whose ſcraps they are) doth abound in the depth the body, and is as duſt or burned, but if they bee few, then declare they the malice the humour to be milder, and that the of evill meats doth cauſe them, the great that ſuch ragged ſcraps are, the leſſer adu on of humours they declare to be in veins, and the leſſer they be, the greater they do betoken. For the cauſe of ſu ragged ſcraps is exceſſive heat, which d turn thoſe humors into a thickneſs, and a were a bony nature, by reaſon that they h remained long in certain veins, and w neither diſſolved, nor extenuated, nor quickly expelled by urine.

Hairs. Beſides theſe there are hairs of ſund lengths, ſome an inch, and ſome an handfu long, ſome longer, and ſome ſhorter; a theſe are in colour whitely, and do betok grief of the reins. Theſe are ingendred in t water-pipes, which go from the reins t the bladder, ſo that as long as thoſe wate pipes are in length, ſo long may thoſe hai alſo be, which are a groſs and baked humo wrought in form of a hair.

Of those speaketh *Hippocrates*, saying ; 4. Aph. 76. *In whose Urine soever there doth appear little peeces of flesh, either as it were hairs, those same come from the reins, namely, if the urine be thick.* Howbeit these are sometimes seen in such mens urines as feel no grief in the reines, but only have fed some continuing space on flegmatick meats, which will prepare matter to such diseases, as they do also to many other griefs, of which to speak in this place it is meet.

But to go on with this thing that wee have in hand, beside such ragged scraps and hairs (as I have spoken of) there appear sometimes in the ground of the urine, and also dis-parkled abroad in the urine it self, sundry and divers kinds of motes (as it were) which do declare that there is grief dispersed in sundry parts of the body. Motes.

And this now may suffice, as touching contents of every kind : Therefore now will I a little repeat out of *Actuarius* of the diversitie of judgement, by the places or regions of the contents. The places of the contents.

That ground which fleeteth nigh to the bottom of the urinall, being in other points also good and mild, doth betoken no strange thing. But if it be unconcoct and deformed, it betokeneth default in nature. And if his The lowest region.

parts

parts be disparkled asunder, it betoken
a dimnes in nature, which doth not re
the rebellion of noysome humors, so th
in such case there appeareth need both
long time, and also more strength to ov
come that evill. But as it is commendab
that the ground fleet nigh the bottome
the urinall, so is it discommendable if it l
flat on the bottome of the same.

The middle region. Now as touching the swim or sublim
tion, if it be good in colour and other wai
then doth it differ only in place from a righ
ground: and that cometh of an unnatura
ines, which maketh it to be so light
o fleet above his due place, but if h
r and other like points bee evill, yo
loth it betoken lesse evill, then if i
in the right place of the ground.

The regio now as touching the third and high
gion, which is the place of the clouds
e appear a light and thin cloud, it be
th no small grief of the head. But
fference is there in the clouds, th
that they be in colour and substance,
ther they differ from a right good
urall Content. And therefore need
ng time to return thereunto. And
y wayes, the worse that they are in
nd substance, the less they are to be
blamed,

blamed, by reaſon of their place, which is ſo much diſtant from the naturall place of Contents. For this is a generall rule : The lower that good contents fleet in the urine, (excepting alwaies ſuch as cleave to the hard bottom) the better they are. And contrary wayes of evill contents and ſuch like, the higher they fleet, the leſſe evill they betoken.

Now to make an end of this. You ſhall obſerve a certain proportion that is between the parts of the urine, and the parts of mans body. The higheſt part of the urine doth betoken, the higheſt part of the body, namely the head, and ſuch other neer unto it. The middle region of the urine doth repreſent the middle parts of man, as the breaſt, the bowels, and the parts about them. The nether region of the urine doth purport the loweſt parts of man, from the bowels downward. And if you mark well this proportion, you may the eaſier judge the griefs of the parts of man.

The proportion of the regions, to the parts of man.

For when the contents which in colour and ſubſtance are naturall, and yet by the abundance of windineſs be lift up to the higher part of the urine, it declareth ſome great pain to be in the head. And in like manner, when the ſwim or ſublimation doth

doth declare grief, that grief muſt be lo
ed to be in the middlemoſt parts of man
I ſaid before) and ſo of the other.

Again, as this proportion between t
regions of urine, and the parts of mans b
dy doth declare that place in certain heig
ſo doth it in breadth alſo by like proportio
if you doe duly mark the ſide, unto wh
the contents do decline.

And if you mark wel what I have ſa
you may perceive the only cauſe of m
ſuch griefs, when the contents is only d
ordered in place, cometh of an unnatur
windines, but yet commonly annexed wi
phlegmatick and unconcocted matter.

And as the windineſs doth cauſe diſord
in the contents, ſo it cauſeth alſo anoth
kind of things not to be neglected in urin
Bubbles. and that is bubbles: which ſometimes ſta
in the ring or garland onely, and ſometim
in the middeſt of the urine onely, and oth
times doe cover the whole face of the urin

The Bubbles which ſtand round abo
over the garland only, and continue witho
parting, if they be of the ſame colour th
the urine is, they declare great pain to be i
the head, and that in all parts of the hea
if the Bubbles joyn together without par
ing. But and if they occupie only the on
hal

half of the garland, then is that pain in the one half of the head. And ſo forth may you judge by like proportion.

But if they doe part in ſundry places, and joyn not all together, it is a token that the pain is the leſſer, and cometh of a weaker cauſe. The more yellower that their colour is, the greater they declare the pain in the head to be. If they be white, or rather whitiſh, and ſtand about in the compaſſe of the garland, they betoken little pain or none. And if the urine bee thin withall, they betoken weakneſs of naturall heat, or elſe the opilation and ſtopping of the reins, namely, if there appear no ground in the urine. This doth *Hippocrates* witneſs, 7. Aph. 14. ſaying; *When in the urine there ſwimmeth bubbles, they betoken grief in the reins:* And alſo that it ſhall long continue. The reaſon of the long continuance (as *Galen* and *Philotheus* doe both declare) is, becauſe that the grief commeth of cold and tough phlegmatick matter, which always is long before it may overcome. *Plin.* alſo ſaith, *that that urine is evil, which is ful of bubbles and thick*, in which if the ground be white, it is a token that there ſhal be grief either about the joynts, or elſe about the bowels. Howbeit, yet ſometimes the bubbles are not Lib. 28. c. 6.

doth declare grief, that grief muſt be lo
ed to be in the middlemoſt parts of man
I ſaid before) and ſo of the other.

Again, as this proportion between t
regions of urine, and the parts of mans b
dy doth declare that place in certain hei
ſo doth it in breadth alſo by like proporti
if you doe duly mark the ſide, unto wh
the contents do decline.

And if you mark wel what I have ſa
you may perceive the only cauſe of m
ſuch griefs, when the contents is only d
ordered in place, cometh of an unnatur
windines, but yet commonly annexed wi
phlegmatick and unconcocted matter.

And as the windineſs doth cauſe diſor
in the contents, ſo it cauſeth alſo anot
kind of things not to be neglected in uri
Bubbles. and that is bubbles: which ſometimes ſt
in the ring or garland onely, and ſometim
in the middeſt of the urine onely, and ot
times doe cover the whole face of the uri

The Bubbles which ſtand round abo
over the garland only, and continue witho
parting, if they be of the ſame colour th
the urine is, they declare great pain to be
the head, and that in all parts of the hea
if the Bubbles joyn together without pa
ing. But and if they occupie only the o
h

half of the garland, then is that pain in the one half of the head. And ſo forth may you judge by like proportion.

But if they doe part in ſundry places, and joyn not all together, it is a token that the pain is the leſſer, and cometh of a weaker cauſe. The more yellower that their colour is, the greater they declare the pain in the head to be. If they be white, or rather whitiſh, and ſtand about in the compaſſe of the garland, they betoken little pain or none. And if the urine bee thin withall, they betoken weakneſs of naturall heat, or elſe the opilation and ſtopping of the reins, namely, if there appear no ground in the urine. This doth *Hippocrates* witneſs, 7.Aph. 14. laying; *When in the urine there ſwimmeth bubbles, they betoken grief in the reins:* And alſo that it ſhall long continue. The reaſon of the long continuance (as *Galen* and *Philotheus* doe both declare) is, becauſe that the grief commeth of cold and tough phlegmatick matter, which always is long before it may overcome. *Plin.* alſo ſaith, *that* Lib. 28. c. 6. *that urine is evil, which is ful of bubbles and thick*, in which if the ground be white, it is a token that there ſhal be grief either about the joynts, or elſe about the bowels. Howbeit, yet ſometimes the bubbles are not

an evill token, but contrariwiſe, a good token of concoction, and declare that nature doth now apply her ſelf wholy unto concoction. And this do the Bubbles ſignifie, when they appear in the water, in which they were not ſeen long before. And therefore in an Ague, we may conjecture the declination of it, when we ſee bubbles to appear after that ſort; except it be ſo that they appeared in the urine at the beginning of the ſickneſs, and hath ſo continued ſtill: For then they declare grievous pain to be in the head, yea and that dangerous, if the urine alſo be thin in ſubſtance. But if the ſubſtance of the urine be thick, then the bubbles are not ſo evill a ſign, neither declare ſo greivous danger.

Sometimes in ſtead of Bubbles which do not appear when they ſhould, it ſufficeth that there appear a groſs ſome (as it is ſometimes ſeen to riſe upon wine) and it doth betoken even the ſame thing that the Bubbles do, eſpecially in the declination of the Ague of which I ſpake a little before.

Fome.

Theſe Bubbles do appear very thick about the garland, in the urine of him that hath the iſſue of ſeed, or waſt of nature. Sometime alſo there are ſeen in the Bubbles certain ſmall ſcrapps (as you would ſay) much like hair

hairs in groſsneſs, and of ſuch length ſometime that they reach from the one ſide of the bubble unto the other, and ſometimes longer, and ſometimes ſhorter, which things may come either of the waſting of the reins, or elſe of the ſhedding of nature.

The cauſe of the generation of bubbles, and alſo of the diſperſing and elevation of the contents, is an unnaturall windineſs. Of which, as there are divers kindes much differing aſunder, partly in multitude, partly in ſubſtance, and partly alſo in quality, ſo doth the bubbles engendred of them diverſly varie, according unto thoſe differences, whether they be ſole and ſeverall, or joyntly many knit together. But windineſs if it be groſſe, then doth it puffe up ſuch Bubbles; and if it be ſubtile, then doth it rather work a diſperſion in the contents, and is not able nor meet to cauſe Bubbles. And hereby may you know the qualitie of the windineſs, and likewiſe alſo the quantitie. For there appeareth leſſe quantitie of windineſſe to bee where the contents onely are diſperſed, then where ſuch Bubbles be ingendred.

Now as touching the other qualities of it, as heat and cold (which are the chief qualities indeed, and moſt active) you may judge

them by the colour of the bubbles. For a pale colour, and other low colours declare coldnes of that windineſs, ſo high colours enclining toward yellow or higher, be certain tokens of heat.

Bubbles that are ſmall, and thick knit together in the garland of the urine, doth betoken a groſſe windineſs, whoſe cauſe cannot eaſily be vanquiſhed; for the groſsneſs and toughneſſe that is in them, will not ſuffer them to ſwell great, and that cauſeth them to be ſo ſmall. And contrariwiſe, the greater that the bubbles be, and the more bouled, the more they declare that windines that cauſeth them to be ſevered from tough matter. Moreover, the colder that ſuch windineſs is, the leſſer grief is felt of them.

Bubbles in the urine of old men, namely being great and large, doe betoken cold windineſſe, but ſometime ſuch bubbles are a ſign of rheum diſtilling from the head into the lights, eſpecially if the Patient at the entring of Summer were very hot, and he did drink much, which matter, the head being dryed, did draw unto him, and did diſtill again part of it down into the lights whereof commeth a cough, and part of it into to the womb, which thereby is moved to laxe.

CHAP.

CHAP. X.

Of the Garland and other like things.

AS I have compendiouſly, and yet not very ſlightly ſpoken of thoſe former parts, to bee conſidered in urine, ſo will I briefly ſpeak of a few more, which may not well be omitted, and ſo make an end of the Judiciall.

First, therefore in the over-part of the urine, round about the edge of the urine there appeareth a garland, circle, or ring, which doth there appear, by reaſon that the higher part of the urine being thinner than the reſt, and more ſubtiller, and therefore doth not only more ſooner alter, but doth more readier declare the alteration. Howbeit ſometime there doth appear no ring at all; and that is when the colour of the urine, and of it is all one, by reaſon of the great force of the cauſe which altereth the urine, but yet ſo that nature doth match that humour, and is neither overcome by it, neither yet hath overcome it. For if nature have plainly either got the victorie, or loſt it, then is there another colour in the garland, then is in the reſt of the urine. The Garland.

Now if the colour of the urine be evill, and the colour of the garland better, it is a token of health. As if the colour of the urine bee yellow, red, or crimſon, or any ſuch like, and the colour of the garland be white, or whitely, it is a token full of good hope; but when the colour of the whole urine is evill, and the colour of the garland worſer yet, then is it an evill ſign. As when the colour of the urine is green or purple, and the garland worſe coloured, then is it a plain token that nature is overcome, and that the evill humours have gotten the upper-hand.

Of theſe more particularly doth *Egidius* treat, but yet not more truly nor more ſufficiently, his words are theſe: *If the circle of the urine be thick and waterie, it is a token that the hinder part of the head is oppreſſed with phlegmatick matter; but if it be purple-coloured and thick, then is the forepart of the head overcharged with blood.*

A pale and a thin circle declareth the left ſide of the head to be troubled with melancholy matter; but if it be red and thin, it betokeneth choler to abound in the right part of the head.

Leddy or aſh-colour.

A Leadie or Aſh coloured circle, doth ſignifie the falling Evill, through the great griefe of the brain.

An

And further declareth that ſuch grief ſhall proceed by the ſinnews into the other parts of the body. But if after ſuch a leadie colour there follow a reddiſh colour, that is a good token; for then doth nature gather ſtrength again, and the powers of the brain reviveth.

If the colour of the garland be green, and the Patient have a burning Ague, it is to be feared, leaſt that the abundance of choler ſhall cauſe a Phrenſie. Green.

Black colour in the circle doth ſometime betoken mortification, and ſometime only extream heat. But theſe ſhall you diſtinct (as I ſaid before of the urine it ſelf) by the order of the colours. For if green colour went before, then doth the black betoken aduſtion through heat, but if his colour laſt before was aſh-colour, then is it a token of death, comming through the dominion of cold. And thus much as touching the colours may ſuffice for this time. Black.

Sometimes alſo you ſhall perceive a quivering and trembling in the garland, and that declareth grief in the back bone. And thus many tokens be taken of the circle or garland. Quivering in the garland.

Sometimes there will appear fleeting on the urine, certaine ſcum or fattineſs, ſometimes like drops of oyle, and ſometime Fattineſs.

like a thin ſpiders web, and theſe both do betoken the melting of the fat within the body, as *Hippocrates* witneſſeth in his Prog. 7 Aph. 30. noſticks, howbeit in his *Aphoriſms* he doth aſſign it as a token of the grief of the reins peculiarly, ſaying; *In whole urine there fleeteth fattineſs, and that much at once, they have pain in the reins, but ſhall not long endure.*

This *Aphoriſm* doth *Galen* underſtand ſo to be true, if that fattineſs appear quickly and much at once; elſe if it come by little and little with longer continuance, ſo doth it not betoken waſt only of the fat about the reins, but rather throughout the whole body, which ſign yet is not alway evil, except it continue long; for if it continue but a little while, it declareth no great evill.

Stinking ſavour in urine. Now to goe forth with other ſigns; If the urine have a ſtinking ſavour, it is ever an evill ſign, for it doth betoken ſome putrefaction more or leſſe; as of the bladder onely, by ſome bliſter or ſore in it: and that moſt certainly, when the ſtinch is very great, and there appeareth alſo ſcales in the urine, and matter. But if there be matter in the urine, and the ſtinking ſavour but mean, then doth it declare the ſore to be in ſome other part of the body. But this ever is

true,

true, that matter in urine is a token of a sore. And if in continuance of time the matter and stinch doe abate, it is a good token, but if the other continue or increase, it is an evill sign. If the urine doe stinke, and there appear no matter in it, then is it a token of some mortifying. For if there be in the urine mean tokens of concoction, then is the mortification in some one part of the body; but if the other signs in the urine be evill, then is that mortification rather of the whole body, then of any one part of it.

And thus have I over-run briefly the chief things to be considered in urine, which (I say) are appertaining or annexed to the urine it self. Howbeit two other things there are, which though they be more plainer then these other, yet may they be overpassed no more then the other: that is to say, blood coming forth with the urine, and gravell expelled therewith also.

Blood. Blood coming forth with urine, doth declare some sore to be in the reins or bladder (as *Hippocrates* writeth in his *Aphorisms*) or else some vein to be broken about the reins, namely if it come suddenly, and without manifest cause. Howbeit, as *Galen*, *Oribasius*, and divers others do declare, and reason also with experience doth consent,

there

there may appear blood in the urine alſo, that there be ſuch a ſore in the liver, or in the ſhaft. But in any of theſe caſes, the pain ſhall in the place and part, will utter from whence the blood commeth.

Gravell. Now to ſpeak of gravell: *Hypocrates* ſaith, *In whoſe urine there appeareth gravell in the bottome, they have the ſtone in the bladder, or elſe in the reins,* as *Galen* addeth; but commonly if the ſtone be in the reins, the gravell will be red, as *Hypocrates* declareth in his ſixt Book of his *Epidemia*. And thus now will I make an end of the judicial of urine.

CHAP. XI.

Of the Commodities and Medicines of Urine.

THe greateſt commodity of urine is already declared: that is, That it doth declare unto man, the manifold diſeaſes which happen unto him; and thereby doth not only give him knowledge of the cauſe, and ſo conſequently of the cure of the ſame, but alſo warneth him before of the grief to come, whereby he may take an occaſion to eſchew it, if he will be diligent.

Now

Now as this is the greateſt commoditie of urin, ſo it hath many other as well in uſe of medicine as other waies, of which I will write ſome, though not all. And firſt out of *Plinie*, which reciteth ſtrange operations of the urine of a Hedge-hog, and of a Beaſt that the *Greeks* call *Leontophon*, and moreover of the Beaſt *Lynx*, which I omit now with many other: but this will I not omit, that *Hoſthanes* ſaith: *That if a man let his own urine drop upon his feet in the morning, it is good againſt all evill.* And that it is good for the gout, we may perceive by Fullers, which never have the gout, by reaſon that their feet are ſo often waſhed with it. *Plinie.* Urine of man.

The ſame *Plinie* writeth, *That the Urine of an Oſtrich, will do away blots and moles of Inke.* Oſtrich urine.

Alſo that if Urine be tempered with water of like quantitie, and ſo powred at the roots of the trees, it will both nouriſh them (as many men ſay) and alſo drive all noyance from them.

The urine alſo of men or oxen, tempered with hony, and given to Bees, will cure them that are poyſoned with the flower of the Cormier or Cornoiller tree. Bees.

And likewiſe if Beans be ſteeped in urine Beans.

urine and water three daies before they be sowed, some judge that they will increase exceedingly. *Dioscorides* saith, *That a mans own urine is good to be drunk for stinging of Adders, and against poison, and also against the dropsie when it doth begin: And for the stinging of the sea-Adders, of scorpions, and dragons*; it is good to soke the stinged part withall.

Dioscorides Stinging of Adders, &c.

Dogs urine.

The urine of Dogs is good to soke the place that is bitten with a Dog, and to cleanse manginess, and itchinesse, if salt peter be added thereto. And that that is old will more strongly cleanse scales, scurff, scabs and hot pushes. Also it stayeth fretting sores, namely, on the privie members. Furthermore it stincheth mattering eares, if it be dropped thereinto, and if it be sod in the rind of a Pomegranate, it expelleth worms out of the ears.

Childes urine.

The urine of a child under 14. yeers of age, doth cure the toughness of breath, if it be drunken. If it be sod in a brazen vessell with honey, it healeth creythes, and also the web and the tey in the eie. There is made of it and copper, good soulder for gold.

Dregs of urine.

The dregs of urine is good for Saint *Anthonies* evill, if it be nointed thereon, so that (as *Galen* doth wisely add) the sore be cooled

led firſt with ſome other thing, and bee not burning. If it be heated with oyle of privet, and laid to the womb of a woman, it will aſſwage the griefe of the mother, and cureth alſo the riſing of the ſame. It cleanſeth the eie-lids, and the creythes in the eyes.

Oxe ſtale being tempered with myrrh, and dropped into ſore eares, healeth the pain of them. The urine of a wild Bore, is of the ſame vertue if it be kept (as *Sextus Platonicus* writeth) in a glaſſe, and dropped warm into them, but it hath a more peculiar property in breaking of the ſtone, and to expell the ſame, if it be drunke. Oxe ſtale. Wild bore.

Goats urine drunke every day, with Spikenard, and three ounces of water, is good for the dropſie, for it expelleth urine by the ſege, and it cureth pain of the ears, if it be dropped into them. Goats urine

Aſſe piſſe (as it is written) is good for the griefe of the reins, if it be drunke. Aſſe piſſe.

Mules ſtale (as *Paulus Ægineta* ſaith) is good to heal pain in the joynts. Mules ſtale.

The ſtale of Camels and Goats alſo doth provoke ſege, and therefore is good for them that have the dropſie. Camels and goats ſtale.

Sextus Platonicus ſaith, That Goats urine (if it be drunke) doth provoke womans terms, and cureth pain in the eares being dropped *Sextus Platonicus.*

Paulus Ægineta. droped into them, and being mixed with mulſet wine, and ſo dropped into the eare it draweth out matter, if there be any.

Wild Bore. The urine of the wild Bore with mulſe vineger, is good for the falling evill, if it be drunke.

Dogs piſſe. A Dogs piſs tempered with duſt, and laid in wool, will heal corns marveilouſly, and deſtroy warts.

Childes urine. A childs urine will heal the ſtinging of Bee, Waſpe and Hornet, if the place be waſhed therewith.

Mans urine. A mans urine will cleanſe the freckles and ſpots in the face. And if a woman can not be delivered of the after burden, let her drinke mans urine, and ſhe ſhall be delivered ſtraight.

Collumella. *Collumella* ſaith, that the beſt dunging for yong ſhots of trees, is mans urine, namely which hath ſtood half a yeer. For if you water vines or apple-trees with it, there is no dung that will cauſe ſo much fruit as it will doe: and not only that, but it cauſeth Sheeps urin alſo the ſavour and the taſte both of the apples, and of the wine, to be much the better.

Conſtantinus Affricanus. *Conſtantinus Affricanus* ſaith, *That the urine of a Sheep, or an Oxe, with ſome hot oile is good for the grief in the ears that come*

of cold. Urine (as *Vitalis de Furno* ſaith) fretteth, dryeth, and burneth, and is good for the grief of the ſpleen, if it be drunk, as *Gentilis* writeth. *Vitalis.*

The Urine of a male Aſſe, as the ſame *Vitalis* ſaith) *tempered with* Nardus *doth increaſe and preſerve hair.* Aſſe ſtale.

And as ſome ſay (by the writing of *Marcellus Virgilius*) *Urine is of no ſmal nouriſhment, for divers folk in the time of dearth, have been preſerved by the onely uſe, and drinking of it.* M. *Virgilius*

Alſo *Marcellus* the Practitioner, in the 27. Chapter doth witneſſe; *That the Urine of a man is good for divers diſeaſes of the wombe and bowels, and namely for the Collick, becauſe that partly with provoking of vomit, and partly by occaſion of ſeges, it expelleth ſtrongly all noyſome humours, and for the ſame cauſe doth common Practitioners keep it ſtill in daily uſe.* *Marcellus.*

Ulderick Hutten alſo witneſſeth, *That he did drive away the Agne above 8. times with the only drinking of his own Urine, at the beginning of his ſickneſs.* And many ſtill doe uſe the ſame practiſe, and it proveth well. *Uldericus Huttenus.*

Likewiſe *Marſilius Ficinus* writeth that *Many men doe uſe to drink urine for the Peſtilence,* *Marſilius Ficinus.*

ſtilence; which thing did *Galen* write long before him, and alſo *Paulus Ægineta*; and doe teſtifie alſo, that it preſerved them that dranke it: at the leaſt way as they thought.

Galen. All urine (as *Galen* writeth) is hot in vertue, and ſharp (as ſaith *Ægineta*) howbeit, it differeth according to them that make it. For the hotter they are that make it, the hotter is it alſo, and likewiſe the colder urine cometh of a colder body.

Mens urine is the weakeſt of all other except tame barrow hoggs; for they in very many points agree with man, but the urine of wild Bores is ſtronger.

Mans urine Mens urine is of as ſtrong cleanſing vertue as any thing elſe, and therefore doe Fullers uſe it to ſcoure and cleanſe their cloth. And in cure of griefs alſo for the ſame reaſon it is uſed to ſoke, and waſh maunginеſs, and ſcabbednеſs, and running ſores that are full of corruption and filth, and ſpecially if they have in them putrified matter, and for ſuch ſores on the privie members it is good, and for mattering eares, and for ſcales and ſcurfe if the head be waſhed in it.

I have healed with it many times ſores on the toes, namely, which came of bruiſes, and were without inflammation, and that in ſervants and husbandmen, which had a journey

journey to goe, and no Phyſitian with them, bidding them to wet a ſmall clout with it, and to put into the ſores, and then to bind a cloth about it, and as often as they liſted to make water, to let it fall on their ſore toes, and not to take the cloth away till it were quite whole.

That medicine which is made of childes urine, called of ſome men in Greek, *Chryſocola* (that is to ſay, gold ſoulder) becauſe men uſe to ſoulder gold. This (I ſay) is exceeding good for ſores that are hard to heal. For this medicine doe I uſe for the chiefeſt, mixing it with ſuch other things, as are good for ſuch like ſores: Chriſocola

In the time of Peſtilence in *Syria*, many did drinke Childrens urine and mens alſo, and thought that they were preſerved by it.

Of urine alſo, do Alchymiſts make divers things, as ſalt, and other things moe. Alchumiſts.

And many other commodities there bee of urine, as for waſhing and ſcouring, and other like, which for briefneſs I over-paſſe, and the rather, becauſe they are commonly known of all folk.

Of the Diseases touching Urines, and the Remedies for the same.

NOw to come to that I promised, as touching the griefs which hinder urine or expell it disorderly, either in time otherwise then is meet, or in qualitie, with other fashions then is agreeable to it, or like other sorts, I will briefly write, not intending to teach the art of curing them, (which would require a longer Treatise, and a meeter place) but onely to name certain of the most common diseases, and to set after them such simple and uncompound medicines only which cure those griefs.

Stopping of urine.

The stone.

First therefore, touching the hinderance or stopping of urine, it is not unknown, that one common cause is the stone, which sometimes is in the reins, and sometime in the bladder. I shewed you before, that commonly you may discern those two asunder, by the colour of the gravel, but the more sure token is the grief in the sick part.

Now for the cure of the same, doth these medicines serve, which follow. But as I have alwaies said, you shal use them with the counsell of some learned Physitian; for there is great difference both of the grief, and of the medicines.

Medi-

Medicines for the ſtone, both in the Reins and Bladder.

Aſtra Bacca.
Ameos.
Angle toches ſod.
Betony.
Bryony root.
Bylgrum.
Chamamel.
Capers Bark, namely of the root.
Claret ſeed.
Clot ſeed.
Dock root.
Fenel ſeed, and root.
Goats blood.
Gladian.
Gromell.
Gum of Plumtree, and Cherry tree.
A hedge Sparrow.
Harebell.
Kneholm root and Berries.
Madder root.
High Mallows ſeed and Root.
Mugwort.
Parſeley.
Pelliter of Spain.
Pyony Berries which are black.
Radiſh.
Sampere.
S. Johns Wort.
Sperage.
Scholm.
Swines Fenell.
Sothern Wood-ſeed.
Sour Almonds.
Tent-wort.
Tutſan Berries.
Water Plantine.
Winter Gilli-flower

And beſide theſe there are divers others.

Alſo the Stone it ſelfe that came from a

man, being braid and drunken, will breake and expell that other within him.

Beſide the ſtone, alſo it cauſeth the urine to be clean ſtopped, by reaſon of weakneſs of the expulſive vertue, and ſometimes through clodds of blood, which reſt in the ſhaft. Sometimes alſo through tough and clammie humours, and ſometime through ſome ſwelling within the yard, and divers other wayes alſo, of which the declaration is too long for this place and time: but another time I intend to write of them at large, and of all other griefs of mans bodie.

But to return to this matter that is in hand. One other ſtop of urine there is, which doth not clean let it, but cauſeth it to avoid leſſer then it ſhould; and this commeth of like cauſes as that other laſt did, ſave that the cauſe is leſs, according as the ſtay of urine is, and therefore the cure in both is much like. For if it come of weakneſs of the expulſive vertue, then with the uſe of other hot meats and drinks, thoſe medicines are good which doe provoke urine, as theſe be that follow.

Medicines which doe provoke urine.

Anniſe-ſeed.	Baſyle.
Ally-ſaunders.	Bylgrum.
Alkakengi.	Cammock.

Char-

Charlock.
Chervell.
Carawayes.
Calamus Aromaticus.
Cubebes.
Dictany of Candie.
Dragance.
Fumitorie.
Fatchys.
Flower delyce.
Garlike.
Ground pine.
Ginger.
Helecompane.
Honey.
Juniper and the Berries.
Lase saverie.
Leeks. Mints.
Margerom.
Maiden hair.
Navew. Nepte.
Negella Romana.
Nettle. Pepper.
Pye Ryall.
Quinces.
Rue. Rosemary.
Rocquet.
Savine.
Sage. Saverie.
Time.
Valerion.
Wild Marjoram.
Wild Parseley.
Wild Time.
Water Cresses.
Woodbinde.

with many other, and namely those for the most part, which I named before to be good for the stone. But there must be discretion in the use of them.

Besides those, is there a disease named the Strangurie (which some corruptly call the Strangurion) in which Disease the urine doth continually drop forth, as fast as it cometh into the bladder. And therefore may it well be noted the first kinde of such

Excess of urine.

griefs as provoke forth, and further urine excessively. For that strangurie these Medicines following are noted good.

Medicines for the Strangurie.

Alisander.	Knot grasse.
Astra Bacca.	Kneholm.
Brokelime.	Sperage.
Ceder berries.	Seholm.
Ceterake.	Spatula Fetida.
Calamus Aromaticus.	Turpentine washed.
Gladiane.	Wilde Fennell.
	Water mints.

But you must consider (as I have often said) that as the disease may come of sundry causes, so it must have sundry cures. For most commonly these are good that I have written, yet such may bee the cause of the sickness, that they may do harme, therefore take alwayes counsell of some learned Physitian.

Another kinde of excessive making of urine cometh of the weakness of the retentive vertue in the reins, whereby the Patient pisseth as fast as he drinketh, and that in like quantitie. This I may call the flux of urine, or pissing evill: or after the imitation of the Greeks, the pisse gout. For which disease it is not greatly commendable

Flux of urine.

Pissing evill.

The piss gout.

to

to ſet forth medicines with the onely bare names. Howbeit, if I doe it, I truſt no man will the rather miſuſe them, namely being warned ſo often to take no medicines without counſell, and ſpecially in this thing, For ſome of the Medicines muſt be received inwardly, and ſome of them emplaiſtred outwardly.

Medicines for the piſſing evill.

Apples.	Cycory. Comferie,
Dates.	Endive. Paritarie.
Elecompane.	Penny wort. Lettis,
Perys.	Lintels. Pomegranat.
Myrtle Berries.	Purſelane.
Night ſhade.	Vine leaves.

Other defaults there be of exceſs of urine, as of them which cannot keep their urine, and namely of children, which piſſe their beds. This diſeaſe cometh oftentimes of the diſſolution of the muſcle which ſhould keep the urine, and therefore requireth cure meet for it, and unmeet for this place, and ſuch ſhortneſſe. Wherefore for this time here I will make an end, truſting that all men will with as gentle heart receive this my writing, as I of gentleneſs have taken the pains to ſet it forth.

Additions.

Of the diversities of Colours, and of the making of them.

BEcause that it is not very easie for every man to distinguish colours duly asunder, I thought it good at the end of this Book, a little to touch the distinction and making of them, namely of such as are mentioned before in this Book.

Milk white. Milk white, by the name of it self doth sufficiently declare what it is; for it is the very colour of milk, though the substance need not to be so thick in the urine, as in the milk, for the colour must be understood several from the substance, both in this and all other colours, which thing would be remembred, for it might else (as it hath often done) deceive the simple folk.

Horn white. Horn white in like manner hath his name of the thing that it assimuleth most, for it is like the white and cleer part of a horn of a lanthorn, or such like.

Grey. Grey is like the white part of a mans nail next unto the joynt, or like hoar hair that is not very white, for gray is so much darker then horn white, as horn white is darker then milk white.

Pale

Pale colour hath a certain appearance of yellow in it, but is exceeding little. If you ſeeth a peece of the rind of Pomegranate, and then put to it thrice as much clean water, it will be a pale colour. Pale.

But if you put thereto little or no clean water, it will be flaxen coloured, that is ſomewhat more yellower then pale. Flaxen.

After it followeth pale, which is a kind of light yellow, ſomething lighter in colour then crown gold. Pale.

For the colour of pure gold (as an angell or royall) is a right yellow colour. Yellow.

A light ſaffron colour is, that colour that ſaffron doth make when it is ſteeped in water, and laid light on any white. For if it be laid on deep, then doth it make a full ſaffron colour. For that is called a ſaffron colour, which ſaffron doth die, and not that that is in the ſaffron it ſelf. For that is very red, and is higher then claret, which is a mean colour between ſaffron and red, as if it were made of them both mixed together. Light ſaffron. Saffron. Red. Claret.

Crimſon is a dark bloody colour, well known by his own name, but is not in urine ſo light as it ſheweth in cloth. Purple, needeth not to be much deſcribed, being ſo commonly known, howbeit if you will ſee the making of it, mixe a dark crimſon, with Crimſon. Purple.

an

an orient blew, and it will be purple. And because that many men be deceived in the latin name of this colour, you shall observe that it is not that which in Latin is called *Purpureus color*, (as most men think) for that is rather a crimson, but it is called more peculiarly *Purpura violacea*, or *Pavonis color*.

Blew. Blew colour is the colour of the clear Skie, or of Azure. Howbeit, in urine it is not so orient, but if you will mix pure white (as white lead, or pure lime) with due portion of right black (as cole dust, or other like) then there will of these amount the blew, which is ascribed to urine.

Green. Green is a compound colour of blew and yellow duly tempred together. And the right green have I in this Book called a stark green. But if the yellow do exceed in it, then is it a light green; and contrariwise, if the blue do exceed, then is it a dark green: Of this green doth *Dioscorides* mean, when he doth say of divers herbs, that their leaves be black; and sometime when he noteth white lines to be in herbs, he meaneth a light green, though he other times understandeth thereby a certain horinesse; of which thing in mine Herball you shall read more exactly.

Stark green.

Light green.

Oylie. Oylie colours differ from green oylie in their

their lightneſs of hue, and thinneſs of ſubſtance in the urine where they appear. The light oyly is ſomewhat lighter, (or rather) brighter and more glittering then light green, So is the ſtark oylie brighter then the ſtark green, and the dark oylie then the dark green, which all cometh through the thinneſs of ſubſtance in the urine. Light. Stark. Dark.

Aſh-colour is darker then blew, and is made of the ſame ſort that blew is, ſave that it requireth more of the black by twofold. This is the colour of lead, which is much darker then the inner part, though indeed both are one colour, and differ onely in brightneſs and darkneſs, which ought rather to be called the hue of colours, then colour. Aſh-colour.

Now as for black, I need not to ſpeak any whit, for as all men do know it, ſo theſe very letters do ſhew it, which though of all other it be moſt deadly, yet is it ſurely of all the moſt mightie, for it overcommeth all colours, and none can change it, ſo that well it may be called the colour of death. For as death overcometh all bodies, ſo black doth damp all colours; beſide, that it is the meſſenger and token of death, which is the end of all things, and black the end of colours. Black.

The

The Exposition of certain VVords.

NOw for because I was inforced to use some (though but few) terms in this Book, which be not wel known of the most sort of men, though a great number know them well enough, by often talking with Physitians, I thought it good here to declare some certain of them, for the aid of the most simple sort.

Ages.

Because that in the judgement of urines the differences of ages ought to be considered, you shall understand that the chief differences of them are four, that is to say *Childhood, Youth, Manhood,* and *Old-age*; for though there be commonly 7. Ages reckoned, yet these be four principall, and the other three be comprehended under these four, childhood endureth from the hour of birth till the end of 14. yeers of age, and is of complexion hot and moist. At the end of 14. yeers beginneth youth, and lasteth till the 25. yeer, and this age of all other is in complexion the most temperate. From 25. until 35. yeers, is the flourishing of manhood, but yet that manhood lasteth (though not in full freshnes) until 50. yeers of age, and this age is of complexion hot and dry. From 50. yeers forward,

Childhood.

Youth.

Manhood.

forward, is the time of age peculiarly called, in which time mans nature is cold and dry, and not moiſt, as many doe falſely thinke. Age.

Active qualities, ſee the title of qualities. Alterative vertue, ſee in the title of vertues. Alterative Active q.

Brightneſs in urine muſt be marked for a ſeveral thing from cleerneſs. For the brightneſſe betokeneth the orientneſs and the beauty of the colour, with a certain gliſtring. Brightneſs.

And cleerneſs is referred to the ſubſtance of urine, and is ever annexed with thinneſs of it. Yet is it a divers qualitie from thinneſs. So may an urine be cleer in ſubſtance, by the reaſon of his thinneſs, and yet not bright in colour, and not cleer in ſubſtance, but this would be well pondered, leſt this neceſſarie diſtinction, cauſe a negligent confuſion. Clearneſs.

Criticall dayes be ſuch dayes, on which there is (or may be) perceived ſome certain token and great alteration in the ſick body, either to health or death, or continuance of ſickneſs. What theſe be, more at large I will hereafter (God willing) declare in a Book peculiarly, becauſe it requireth more largeneſs of words, then is meet for this place. But one thing I muſt tell you, that the ſame dayes alſo be called Judiciall, but not Indiciall, for the Indiciall daies are of another kind: but yet aſſociate to theſe other. Criticall dayes. Judiciall dayes.

Cruditie

Cruditie. Cruditie is the rawneſs of the meat in the ſtomack, when the naturall operation of it cannot duely digeſt the meat which it hath received; and therefore the urine which declareth default of ſuch digeſtion, is called crude, raw, and unconcoct urine.

Cupping. Cupping is commonly known, that needeth no declaration.

Cloddie urine. A cloddie urine is that which hath in it clods of bloud, or other crude matter, or any clusterings of difform contents.

Dulneſs. Dark ground is not meant of the darkneſs of colour, but rather of the ſlenderneſs of ſubſtance, ſo that it can ſcarcely bee diſcerned to be any ground, by reaſon that it is ſo neer in ſhape and ſubſtance to the reſt of the urine. Dulneſs of colour is contrary to brightneſs, ſo that when the colour lacketh all brightneſs, then is it clean dulled, and whatſoever thing cauſeth decay of ſuch brightneſſe, that thing dulleth urine.

Divers. Thoſe contents be called divers, which have neither their own right form, nor any other certain, but are altogether diſordered and out of form, rather ſeeming to be many, then to be one.

Duly knit. Duly knit, is a property of due contents, when they are not tattered, ragged, nor jagged, nor flittering aſunder, nor yet are not

ſo

ſo clammed together, as tough fleam, or any ſuch thing, but are in a moderate mean betweene both theſe.

A gathering ſore, is that ſore that is cauſed of the exceſſive recourſe of humours into any part of the body, as a bile, or any other like. A gathering

Harveſt, ſeek times of the yeer. Harveſt.

Judiciall daies, ſeek Criticall dayes. Judiciall dayes.

Inequalitie of ſubſtance in urine doth appear to be the difforments and diſagreeing of the parts of it together; as when it is thin in one part, and thick in another. Howbeit, it is as well uſed for the alteration from a mean ſubſtance to thickneſſe or thinneſſe, or other wayes unnaturall. Inequalitie.

Obſtruction, a ſtopping commonly of the veins, and ſuch great conduits (which convey blood or any other humour) ſo that the thing which they ſhould convey cannot freely paſs as it ought. But if the like ſtopping happen in the pores of the skin, (I mean thoſe unſenſible holes, by which ſweat paſſeth out) ſo that neither ſweat, nor any like excrement may paſs that wayes, then is it moſt named Oppilation. Howbeit, as theſe words be ſometimes uſed the one for the other, ſo they be applied alſo to other ſundry parts of the body; but evermore they betoken Obſtruction.

Oppilation.

ken such stopping in that part, that natures work is hindered thereby.

Principall members. Principall members (as to our purpose now) are these 3. the brain, the heart, and the liver.

Passive. Passive : seek Qualities.

Putrefaction. Putrefaction is commonly known to signifie, rotting.

Qualities. Qualities active, are named heat and cold, because they are more apt and able to work, then to be wrought. And contrarie wise drinesse and moisture are named passive, or suffering qualities, because they are more ready to be altered by the working of heat and cold, then to work themselves; howbeit yet they doe work also.

The four times of sickneſſe. There be in sickness four principall parts of time, to be observed of Physitians : The beginning of sickness, the increase or augmenting, the standing or chief force of it, and the declination or asswaging of it.

The beginning. The beginning is, from the time that sickneſſe hath overcome mans strength, and brought him to lie down, till there doe appear manifest signes of concoction of the matter, whereof the disease cometh, at which time, the sickness waxeth fiercer and fiercer: and while it so continueth, that time is called the Increase and augmenting

The increase.

of ſickneſs, but when the violence of the ſickneſſe is at the moſt, ſo that the rage of it is at one ſtay, and neither increaſes nor decreaſes, that time is called the ſtanding, ſtay, ſtate, or chief ſtrength of the ſickneſs. And after that the furious rage of ſickneſs doth abate, and calm his cruell ſtormes, then is the declination of the ſickneſs: after which (if the Patient eſcape as very few die in the declination) then followeth recovery to health again. And theſe be the four generall or univerſall times of ſickneſs. Beſide theſe there be other times more particular, wherof how to ſpeak I need not. The diverſity of times in the yeer are duly to be obſerved, for they do much alter mans body.

The ſtate.

Declination.

Times of the yeer.

The Spring time increaſeth blood and bringeth all the parts of the body to a temperance, as nigh as it can. For it of all other times is the moſt temperate, neither exceſſively hot, nor cold; neither moiſt, nor dry; but of a juſt temperature, as *Galen* proveth abundantly in his firſt Book of Temperaments, where he doth much blame them that name it to be hot and moiſt, which he ſaith, is of all other the moſt peſtilent ſtate of air. This Spring, after *Galens* minde, doth begin about the tenth day of *March*, and endeth about the 14. day of *April*, ſo

The Spring.

that it lasteth but 6. weeks, and 2. dayes. For at the rising of the *Pleiades* (which is now in our time about the 24. day of *April*) he saith that Summer doth begin. Which Summer is in complexion hot and dry, and therefore meet to increase choler, which in that time doth abound. The Summer lasteth 21. weeks. Harvest doth begin after *Galen* minde, about the 17. day of *September*, and lasteth 7. weekes. The Harvest, is dry of complexion, but neither only hot, nor only cold, but is distemperate in heat and cold. For in the morning and evening it is cold, and at noon it is hot. So may it not be called justly (as men do name it) cold and dry. In this time doth melancholy increase. At the end of Harvest, about the seventh day of *November*, doth Winter begin, which time is cold and moist; and therefore increaseth flegm, which is like in complexion unto it. And the Winter lasteth till the 10. day of *March*; so is it in length about 17. weeks and a half, and then beginneth the Spring time again. And this is the course of the year, after Physick. Other men which intreat of Husbandry, do part the yeer into 4. equall parts, giving 3. months to every time. Unto the Spring they give *February*, *March*, and *April*. To the Summer, *May*, *June*,

Summer.

Harvest.

Winter.

Another sort of these times.

June, and *July*. Unto Harveſt, *Auguſt*, *September*, *October*. And unto winter they appoint *November*, *December*, and *January*. Why the Phyſitians part the yeer one way, and writers of husbandry another way, at more convenient time I will declare.

Vertues. Vertues naturall are four. The firſt is, That which draweth nouriſhment into due places, and that is called the attractive vertue. Attractive. The ſecond, is it that altereth the nouriſhment into a due form to nouriſh the body, and is called the alterative vertue. Alterative. The third is that vertue, which keepeth in the good nouriſhment, till the alterative vertue hath duly altered it, and therefore is called the retentive vertue. Retentive. The fourth, is called the vertue expulſive, becauſe his office is to expel thoſe ſuperfluous excrements which are left, when the other vertues have done their office duly. Expulſive.

FINIS.